Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

A

Choose the correct answer: *(2 marks for each right answer)*

1. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

2. Find the area of the rectangle shown .

$\sqrt{6}\,m$

$2\sqrt{3}\ m$

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$

3. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

4. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

5. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

6. Find the Solution of the inequality $0.2(y-10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

7. Solve the compound inequality : $x - 3 < 2$ AND $x + 3 > 2$.

A. $x > -1$ **B.** $-1 < x < 5$ **C.** $x > -5$ **D.** $x < -1$

8. Which number is not a solution of the inequality $|y+3| < 5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

9. What is the solution of the equation $|3x-1|+4=1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** No solution

10. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

11. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

12. Which expression is equal to $4x^2 - 12x + 9$?

A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

13. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

14. Factor the expression y^3+y-4y^2-4

A. $(y^2+1)(y-4)$ **B.** $(y^2-1)(y-4)$

C. $(y^2+1)(y+4)$ **D.** $(y^2-1)(y+4)$

15. Factor $9^2 - 9x^2$

A. $(3-3x)(3+3x)$ **B.** $(9-x)(9+3x)$

C. $(9-3x)(9+3x)$ **D.** $(9-3x)(9+x)$

16. Find the solution for the system $\begin{cases} y = x+3 \\ y = 4+2x \end{cases}$

A. $(-1\ ,-2)$ **B.** $(-1\ ,2)$

C. $(2\ ,-1)$ **D.** $(1\ ,-2)$

17. What is the type of the two events : appearing of (heads) after flipping a coin, and appearing of (tails) after flipping it a second time?

A. Independent **B.** Dependent

C. Mutually Exclusive Events **D.** All answers are incorrect

18. Which of the following is a linear equation ?

A. $y = 3x^2 - 4$ **B.** $y = -5x - 5$

C. $y = \sqrt{x} - 7x$ **D.** $xy = -19$

19. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

20. What is the y-intercept of the line $12x = 18 + 3y$?

A. $(-6\ ,0)$ **B.** $(0\ ,-6)$ **C.** $(6\ ,0)$ **D.** $(0\ ,6)$

21. What is the slope of the line $8x - 4y = -16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

22. A line passes through the points $(-4\ ,-2)\ and\ (2\ ,4)$.Write its equation in slope-intercept form:

A. $y = x - 2$ **B.** $y = -x + 2$

C. $y = -x - 2$ **D.** $y = x + 2$

23. Find an equation of direct variation , given that y varies directly with x .

$y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

24. Which line is parallel to the line $y = 6x - 12$?

A. $y + 6x = -12$ **B.** $y + 6x = 12$

C. $y - 6x = 5$ **D.** $y + 6x - 5 = 0$

25. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y - 11 = -8(x-7)$ **B.** $y + 11 = -8(x-7)$

C. $y - 7 = 8(x+11)$ **D.** $y - 7 = -8(x+11)$

26. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

27. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

28. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

C. Line graph **D.** Histogram

29. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation

C. Scatterplot **D.** No correlation

30. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

31. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

32. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

33. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

34. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

35. Find the central angle of regular polygon Nonagon .

A. $36°$ **B.** $40°$ **C.** $48°$ **D.** $54°$

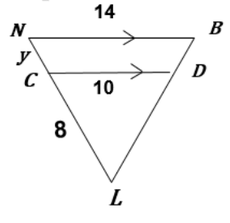
36. Two sides in a triangle are of lengths (12 cm) and (18 cm) .

Find the range possible for the length of the third side (x) .

A. $6 < x < 30$ **B.** $30 < x < 6$

C. $12 < x < 18$ **D.** $18 < x < 12$

37. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .



A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1

38. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides

C.Ten sides **D.**Twenty sides

39. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

40. The missing term in $16x^2 + \square + 25$ to be a perfect square is :

A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

41. If $y = 2x - 4$, what is the value of y when $x = -1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

42. Multiply $(2 + \sqrt{3})(1 - \sqrt{3})$ equal :

A. $1 - \sqrt{3}$ **B.** $1 + \sqrt{3}$ **C.** $-1 + \sqrt{3}$ **D.** $-1 - \sqrt{3}$

43. What is the solution of the equation $(x - 6)(3x - 5) = 0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

44. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

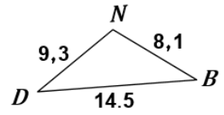
45. Simplifying of $4\sqrt{3} + 4\sqrt{12} - 4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

46. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N

C. B, N, D **D.** N, D, B



47. Which of the following sets of data has a mean equal to zero ?

A. 3 , 2 , −3 , 1 , −2 **B.** 4 , −3 , −1 , 2 , 3

C. −4 ,2 , −2 , −1 , 3 **D.** −2 ,1 , 3 , −4 , 2

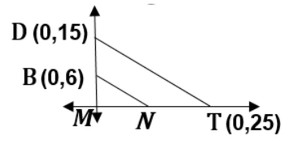
48. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN} \,||\, \overline{LT}$ .what is the value of y ?

A. 6 **B.** −18 **C.** − 6 **D.** 18

49. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

50. Given that $\Delta MNB \sim \Delta MTD$, find the coordinates of N .



A.(10 , 0) **B.**(0 , 10)

C.(0 , 15) **D.**(15 , 0)

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1. What is the solution of the equation $(x-6)(3x-5)=0$?

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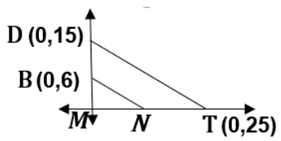

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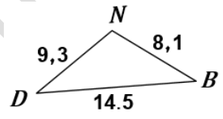

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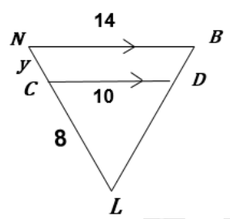

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A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

45. Find the area of the rectangle shown .

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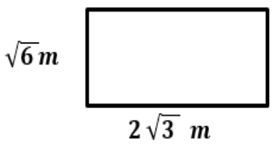

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A. $3, 2, -3, 1, -2$ **B.** $4, -3, -1, 2, 3$

C. $-4, 2, -2, -1, 3$ **D.** $-2, 1, 3, -4, 2$

5. What is the perimeter of the shown regular octagon ?

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A. 6 **B.** -18 **C.** -6 **D.** 18

8. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

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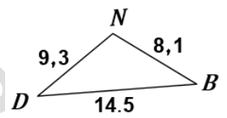
A. D, N, B **B.** D, B, N

C. B, N, D **D.** N, D, B



14. If $y = 2x - 4$, what is the value of y when $x = -1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

15. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

16. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

17. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

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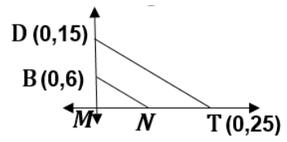
A. Independent **B.** Dependent

C. Mutually Exclusive Events **D.** All answers are incorrect

19. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

20. Given that $\Delta MNB \sim \Delta MTD$, find the coordinates of N .



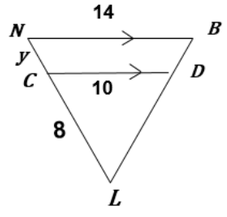
A.(10 , 0) **B.**(0 , 10)

C.(0 , 15) **D.**(15 , 0)

21. Simplifying of $4\sqrt{3} + 4\sqrt{12} - 4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

22. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .



A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1

23. Which of the following is a linear equation ?

A. $y = 3x^2 - 4$ **B.** $y = -5x - 5$

C. $y = \sqrt{x} - 7x$ **D.** $xy = -19$

24. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

25. Which line is parallel to the line $y = 6x - 12$?

A. $y + 6x = -12$ **B.** $y + 6x = 12$

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26. What is the slope of the line $8x - 4y = -16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

27. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

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29. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

30. Find the central angle of regular polygon Nonagon .

A. $36°$ **B.** $40°$ **C.** $48°$ **D.** $54°$

31. Find the solution for the system $\begin{cases} y = x + 3 \\ y = 4 + 2x \end{cases}$

A. $(-1\ , -2)$ **B.** $(-1\ , 2)$

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32. Two sides in a triangle are of lengths (12 cm) and (18 cm) .
Find the range possible for the length of the third side (x) .

A. $6 < x < 30$ **B.** $30 < x < 6$

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A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

34. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

35. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

36. Which number is not a solution of the inequality $|y + 3| < 5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

37. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

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38. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

39. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation

C. Scatterplot **D.** No correlation

40. Solve the compound inequality : $x - 3 < 2$ AND $x + 3 > 2$.

A. $x > -1$ **B.** $-1 < x < 5$ **C.** $x > -5$ **D.** $x < -1$

41. Find the highest quartile for the given data set :
13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

42. What is the solution of the equation $|3x - 1| + 4 = 1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No* solution

43. Find the Solution of the inequality $0.2(y - 10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

44. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

45. A line passes through the points $(-4\ , -2)$ *and* $(2\ , 4)$.Write its equation in slope-intercept form:

A. $y = x - 2$ **B.** $y = -x + 2$

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46. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y - 11 = -8(x - 7)$ **B.** $y + 11 = -8(x - 7)$

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47. Factor $9^2 - 9x^2$

A. $(3 - 3x)(3 + 3x)$ **B.** $(9 - x)(9 + 3x)$

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A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

49. What is the y-intercept of the line $12x = 18 + 3y$?

A. $(-6\ , 0)$ **B.** $(0\ , -6)$ **C.** $(6\ , 0)$ **D.** $(0\ , 6)$

50. Find the area of the rectangle shown .

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

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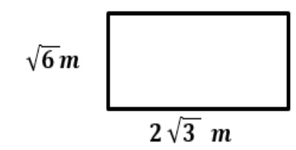

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

D

Choose the correct answer: *(2 marks for each right answer)*

1. Bawar threw a die and a coin What is the probability of getting a number greater 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

2. Find an equation of direct variation , given that y varies directly with x .

$y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

3. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .

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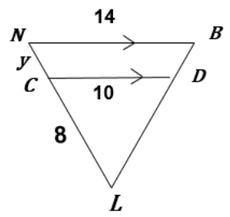

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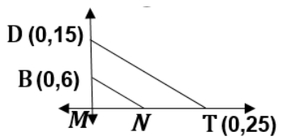

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A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No* solution

6. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

7. Which line is parallel to the line $y = 6x - 12$?

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A. $(y^2 + 1)(y - 4)$ **B.** $(y^2 - 1)(y - 4)$

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10. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

11. Factor $9^2 - 9x^2$

A. $(3 - 3x)(3 + 3x)$ **B.** $(9 - x)(9 + 3x)$

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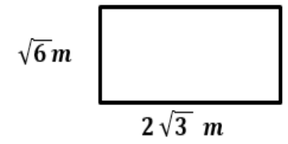

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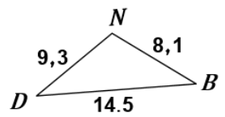

32. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides

C.Ten sides **D.**Twenty sides

33. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

34. Which of the following sets of data has a mean equal to zero ?

A. $3, 2, -3, 1, -2$ **B.** $4, -3, -1, 2, 3$

C. $-4, 2, -2, -1, 3$ **D.** $-2, 1, 3, -4, 2$

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43. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

44. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN} \,||\, \overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

45. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

46. If $y = 2x - 4$, what is the value of y when $x = -1$?

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50. Which number is not a solution of the inequality $|y + 3| < 5$?

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The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

E

Choose the correct answer: *(2 marks for each right answer)*

1. Write the angles in order from smallest to largest

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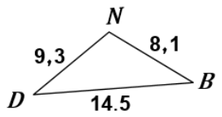
C. B, N, D **D.** N, D, B



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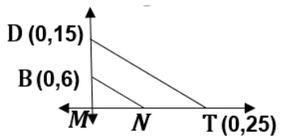

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23. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN} \,||\, \overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

24. What is the solution of the equation $(x - 6)(3x - 5) = 0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

25. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

26. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

27. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

28. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation
C. Scatterplot **D.** No correlation

29. Which line is parallel to the line $y = 6x - 12$?

A. $y + 6x = -12$ **B.** $y + 6x = 12$
C. $y - 6x = 5$ **D.** $y + 6x - 5 = 0$

30. What is the slope of the line $8x - 4y = -16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

31. Find the solution for the system $\begin{cases} y = x + 3 \\ y = 4 + 2x \end{cases}$

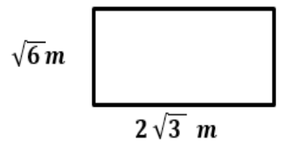
A. $(-1\ , -2)$ **B.** $(-1\ , 2)$
C. $(2\ , -1)$ **D.** $(1\ , -2)$

32. Which number is not a solution of the inequality $|\,y + 3\,| < 5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

33. Find the area of the rectangle shown .

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$
C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$



34. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. $185\ 000$ **B.** $150\ 000$ **C.** $225\ 000$ **D.** $135\ 000$

35. Two sides in a triangle are of lengths (12 cm) and (18 cm) .
Find the range possible for the length of the third side (x) .

A. $6 < x < 30$ **B.** $30 < x < 6$
C. $12 < x < 18$ **D.** $18 < x < 12$

36. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

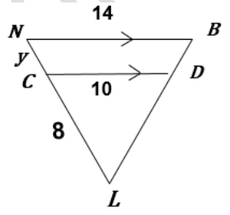
A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

37. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

38. In the opposite figure $\Delta\, NBL \sim \Delta\, CD\, L$, find the value of y .

A. 3.2 **B.** 1.2
C. 2.3 **D.** 4.1



39. A line passes through the points $(-4\ , -2)\ and\ (2\ , 4)$.Write its equation in slope-intercept form:

A. $y = x - 2$ **B.** $y = -x + 2$
C. $y = -x - 2$ **D.** $y = x + 2$

40. Find the Solution of the inequality $0.2(y - 10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

41. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A. Four sides **B.** Five sides
C. Ten sides **D.** Twenty sides

42. Which of the following sets of data has a mean equal to zero ?

A. $3\ ,2\ ,-3\ ,1\ ,-2$ **B.** $4\ ,-3\ ,-1\ ,2\ ,3$
C. $-4\ ,2\ ,-2\ ,-1\ ,3$ **D.** $-2\ ,1\ ,3\ ,-4\ ,2$

43. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

44. If $y = 2x - 4$, what is the value of y when $x = -1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

45. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

46. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table
C. Line graph **D.** Histogram

47. Simplifying of $4\sqrt{3} + 4\sqrt{12} - 4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

48. What is the y-intercept of the line $12x = 18 + 3y$?

A. $(-6\ , 0)$ **B.** $(0\ , -6\ )$ **C.** $(6\ , 0)$ **D.** $(0\ , 6)$

49. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm
C. 38.3 cm **D.** 48 cm

50. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y - 11 = -8(\,x - 7\,)$ **B.** $y + 11 = -8(\,x - 7\,)$
C. $y - 7 = 8(\,x + 11\,)$ **D.** $y - 7 = -8(\,x + 11\,)$

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

F

Choose the correct answer: *(2 marks for each right answer)*

1. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

2. Multiply $(2+\sqrt{3})(1-\sqrt{3})$ equal :

A. $1-\sqrt{3}$ **B.** $1+\sqrt{3}$ **C.** $-1+\sqrt{3}$ **D.** $-1-\sqrt{3}$

3. What is the solution of the equation $(x-6)(3x-5)=0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

4. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

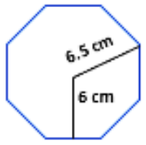
5. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

6. Bawar threw a die and a coin What is the probability of getting a number greater 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

7. What is the perimeter of the shown regular octagon ?



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C. 38.3 cm **D.** 48 cm

8. What is the y-intercept of the line $12x=18+3y$?

A. $(-6\ ,0)$ **B.** $(0\ ,-6)$ **C.** $(6\ ,0)$ **D.** $(0\ ,6)$

9. Find the solution for the system $\begin{cases} y=x+3 \\ y=4+2x \end{cases}$

A. $(-1\ ,-2)$ **B.** $(-1\ ,2)$

C. $(2\ ,-1)$ **D.** $(1\ ,-2)$

10. What is the slope of the line $8x-4y=-16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

11. Factor 9^2-9x^2

A. $(3-3x)\,(3+3x)$ **B.** $(9-x)\,(9+3x)$

C. $(9-3x)\,(9+3x)$ **D.** $(9-3x)\,(9+x)$

12. Factor the expression y^3+y-4y^2-4

A. $(y^2+1)\,(y-4)$ **B.** $(y^2-1)\,(y-4)$

C. $(y^2+1)\,(y+4)$ **D.** $(y^2-1)\,(y+4)$

13. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

14. Find the Greatest common factor (GCF) for the expression .$-8x^2-12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

15. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

16. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

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A. $y=x-2$ **B.** $y=-x+2$

C. $y=-x-2$ **D.** $y=x+2$

20. Find the central angle of regular polygon Nonagon .

A. $36°$ **B.** $40°$ **C.** $48°$ **D.** $54°$

21. Which of the following is a linear equation ?

A. $y=3x^2-4$ **B.** $y=-5x-5$

C. $y=\sqrt{x}-7x$ **D.** $xy=-19$

22. Find the Solution of the inequality $0.2(y-10)>-1.8$.

A. $y>-1$ **B.** $y>-0.1$ **C.** $y>0.1$ **D.** $y>1$

23. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

24. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y-11=-8(x-7)$ **B.** $y+11=-8(x-7)$

C. $y-7=8(x+11)$ **D.** $y-7=-8(x+11)$

25. Find the Solution of the inequality $-40\geq 8n$.

A. $n\geq 5$ **B.** $n\geq -5$ **C.** $n\leq -5$ **D.** $n\leq 5$

26. What is the type of the two events : appearing of (heads) after flipping a coin, and appearing of (tails) after flipping it a second time?

A. Independent **B.** Dependent

C. Mutually Exclusive Events **D.** All answers are incorrect

27. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

28. Which expression is equal to $4x^2-12x+9$?

A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

29. Find an equation of direct variation , given that y varies directly with x .
$y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

30. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

31. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides
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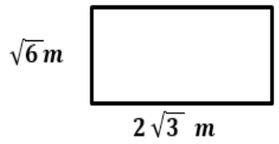
32. Find the area of the rectangle shown .

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$
C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$

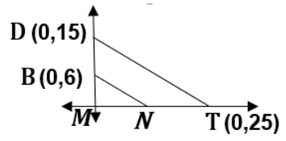


33. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN}\,||\overline{LT}$.what is the value of y ?

A. 6 **B.** −18 **C.** − 6 **D.** 18

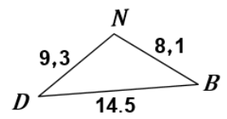
34. Given that $\Delta\, MNB \sim \Delta\, MTD$, find the coordinates of ***N*** .

A.(10 , 0) **B.**(0 , 10)
C.(0 , 15) **D.**(15 , 0)



35. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N
C. B, N, D **D.** N, D, B

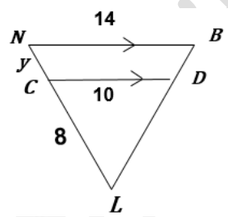


36. Which number is not a solution of the inequality $|\,y + 3\,| < 5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

37. In the opposite figure $\Delta\, NBL \sim \Delta\, CD\, L$, find the value of y .

A. 3.2 **B.** 1.2
C. 2.3 **D.** 4.1



38. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

39. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

40. Which line is parallel to the line $y = 6x - 12$?

A. $y + 6x = -12$ **B.** $y + 6x = 12$
C. $y - 6x = 5$ **D.** $y + 6x - 5 = 0$

41. Solve the compound inequality : $x - 3 < 2$ AND $x + 3 > 2$.

A. $x > -1$ **B.** $-1 < x < 5$ **C.** $x > -5$ **D.** $x < -1$

42. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

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43. Simplifying of $4\sqrt{3} + 4\sqrt{12} - 4\sqrt{48}$ equal to :

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44. Which of the following sets of data has a mean equal to zero ?

A. 3 , 2 , −3 , 1 , −2 **B.** 4 , −3 , −1 , 2 , 3
C. −4 ,2 , −2 , −1 , 3 **D.** −2 ,1 , 3 , −4 , 2

45. Two sides in a triangle are of lengths (12 cm) and (18 cm) .
Find the range possible for the length of the third side (x) .

A. $6 < x < 30$ **B.** $30 < x < 6$
C. $12 < x < 18$ **D.** $18 < x < 12$

46. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

47. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation
C. Scatterplot **D.** No correlation

48. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

49. The missing term in $16x^2 + \square + 25$ to be a perfect square is :

A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

50. What is the solution of the equation $|\,3x - 1\,| + 4 = 1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No* solution

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

G

Choose the correct answer: *(2 marks for each right answer)*

1. What is the solution of the equation $(x-6)(3x-5)=0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

2. Find the area of the rectangle shown .

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

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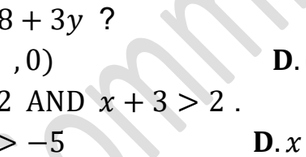

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A. 3.2 **B.** 1.2

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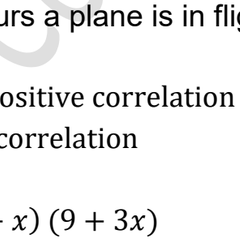

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A.Four sides **B.** Five sides

C.Ten sides **D.**Twenty sides

5. What is the solution of the equation $|3x-1|+4=1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** No solution

6. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

7. Find the central angle of regular polygon Nonagon .

A. 36° **B.** 40° **C.** 48° **D.** 54°

8. What is the y-intercept of the line $12x=18+3y$?

A. $(-6\ ,0)$ **B.** $(0\ ,-6\ )$ **C.** $(6\ ,0)$ **D.** $(0\ ,6)$

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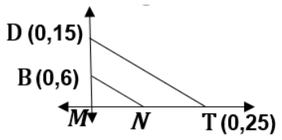

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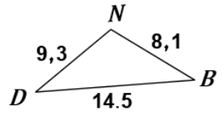

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27. The number $-\sqrt{7}$ is between the two integers.

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A. 12 **B.** 18 **C.** 21 **D.** 24

30. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

31. Which of the following is a linear equation ?

A. $y=3x^2-4$ **B.** $y=-5x-5$

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32. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

33. Find an equation of direct variation , given that y varies directly with x .

$y=24$ when $x=2$

A. $y=2x$ **B.** $y=24x$ **C.** $y=48x$ **D.** $y=12x$

34. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

35. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

36. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

37. A line passes through the points $(-4\ ,-2)\ and\ (2\ ,4)$.Write its equation in slope-intercept form:

A. $y=x-2$ **B.** $y=-x+2$

C. $y=-x-2$ **D.** $y=x+2$

38. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

39. Which line is parallel to the line $y=6x-12$?

A. $y+6x=-12$ **B.** $y+6x=12$

C. $y-6x=5$ **D.** $y+6x-5=0$

40. Which of the following sets of data has a mean equal to zero ?

A. 3 , 2 , -3 , 1 , -2 **B.** 4 , -3 , -1 , 2 , 3

C. -4 ,2 , -2 , -1 , 3 **D.** -2 ,1 , 3 , -4 , 2

41. If $y=2x-4$, what is the value of y when $x=-1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

42. Which number is not a solution of the inequality $|y+3|<5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

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44. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

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46. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

47. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

48. Find the Greatest common factor (GCF) for the expression .$-8x^2-12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

49. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

50. The missing term in $16x^2+\square+25$ to be a perfect square is :

A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

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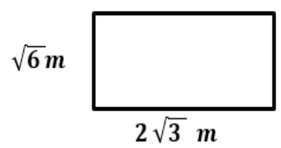
Choose the correct answer: *(2 marks for each right answer)*

1. Find the area of the rectangle shown .



A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$

2. Find the solution for the system $\begin{cases} y = x + 3 \\ y = 4 + 2x \end{cases}$

A. $(-1\ , -2)$ **B.** $(-1\ , 2)$

C. $(2\ , -1)$ **D.** $(1\ , -2)$

3. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

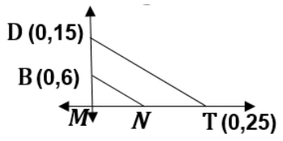
4. What is the slope of the line $8x - 4y = -16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

5. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

6. Given that $\Delta\, MNB \sim \Delta\, MTD$, find the coordinates of N .



A.(10 , 0) **B.**(0 , 10)

C.(0 , 15) **D.**(15 , 0)

7. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

C. Line graph **D.** Histogram

8. What is the type of the two events : appearing of (heads) after flipping a coin, and appearing of (tails) after flipping it a second time?

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A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

11. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

12. Simplifying of $4\sqrt{3} + 4\sqrt{12} - 4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

13. Find an equation of direct variation , given that y varies directly with x .

$y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

14. A line passes through the points $(-4\ , -2)\ and\ (2\ , 4)$.Write its equation in slope-intercept form:

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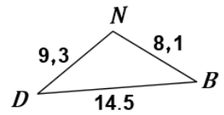
C. $y = -x - 2$ **D.** $y = x + 2$

15. The missing term in $16x^2 + \square + 25$ to be a perfect square is :

A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

16. Write the angles in order from smallest to largest



A. D, N, B **B.** D, B, N

C. B, N, D **D.** N, D, B

17. Which of the following is a linear equation ?

A. $y = 3x^2 - 4$ **B.** $y = -5x - 5$

C. $y = \sqrt{x} - 7x$ **D.** $xy = -19$

18. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

19. Solve the compound inequality : $x - 3 < 2$ AND $x + 3 > 2$.

A. $x > -1$ **B.** $-1 < x < 5$ **C.** $x > -5$ **D.** $x < -1$

20. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides

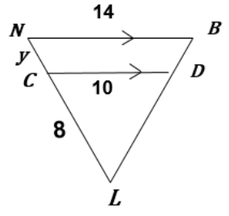
C.Ten sides **D.**Twenty sides

21. Which of the following sets of data has a mean equal to zero ?

A. $3\ , 2\ , -3\ , 1\ , -2$ **B.** $4\ , -3\ , -1\ , 2\ , 3$

C. $-4\ , 2\ , -2\ , -1\ , 3$ **D.** $-2\ , 1\ , 3\ , -4\ , 2$

22. In the opposite figure $\Delta\, NBL \sim \Delta\, CD\, L$, find the value of y .



A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1

23. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

24. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

25. Factor $9^2 - 9x^2$

A. $(3-3x)\,(3+3x)$ **B.** $(9-x)\,(9+3x)$

C. $(9-3x)\,(9+3x)$ **D.** $(9-3x)\,(9+x)$

26. Which expression is equal to $4x^2 - 12x + 9$?

A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

27. Multiply $(2+\sqrt{3})(1-\sqrt{3})$ equal :

A. $1-\sqrt{3}$ **B.** $1+\sqrt{3}$ **C.** $-1+\sqrt{3}$ **D.** $-1-\sqrt{3}$

28. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

29. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation

C. Scatterplot **D.** No correlation

30. Two sides in a triangle are of lengths (12 cm) and (18 cm) .
Find the range possible for the length of the third side (x) .

A. $6 < x < 30$ **B.** $30 < x < 6$

C. $12 < x < 18$ **D.** $18 < x < 12$

31. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

32. Which line is parallel to the line $y = 6x - 12$?

A. $y + 6x = -12$ **B.** $y + 6x = 12$

C. $y - 6x = 5$ **D.** $y + 6x - 5 = 0$

33. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

34. What is the solution of the equation $(x-6)(3x-5) = 0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

35. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y - 11 = -8(x-7)$ **B.** $y + 11 = -8(x-7)$

C. $y - 7 = 8(x+11)$ **D.** $y - 7 = -8(x+11)$

36. What is the y-intercept of the line $12x = 18 + 3y$?

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37. Find the central angle of regular polygon Nonagon .

A. $36°$ **B.** $40°$ **C.** $48°$ **D.** $54°$

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A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

40. What is the solution of the equation $|3x-1|+4 = 1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** No solution

41. Given B$(-1,0)$, N$(-2,2)$, L(10,y), T(4,6) and $\overline{BN} \,||\, \overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

42. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

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A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

44. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

45. Factor the expression y^3+y-4y^2-4

A. $(y^2+1)\,(y-4)$ **B.** $(y^2-1)\,(y-4)$

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46. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

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47. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

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A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

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Choose the correct answer: *(2 marks for each right answer)*

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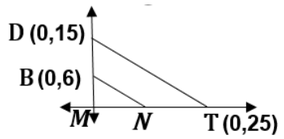

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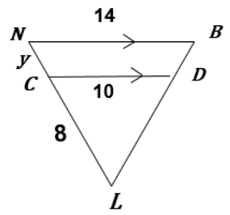

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A. $(y^2 + 1)(y - 4)$ **B.** $(y^2 - 1)(y - 4)$

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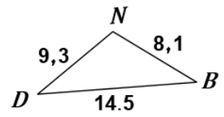
45. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N

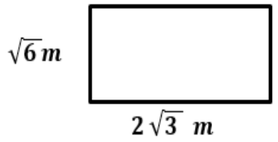
C. B, N, D **D.** N, D, B



46. Find the area of the rectangle shown .

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$



47. Multiply $(2 + \sqrt{3})(1 - \sqrt{3})$ equal :

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A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

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Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

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National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

J

Choose the correct answer: (2 marks for each right answer)

1. If a line divides two sides of a triangle proportionally , then it is ..... to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

2. The number $-\sqrt{7}$ is between the two integers.

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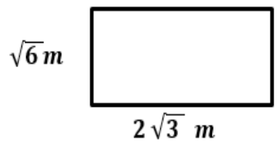

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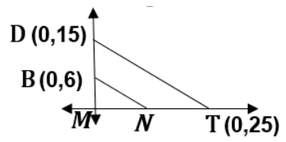

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A. Bar graph **B.** Frequency table

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7. What is the solution of the equation $|3x-1|+4=1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No solution*

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A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

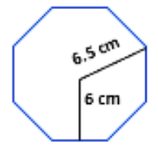
13. Simplifying of $4\sqrt{3}+4\sqrt{12}-4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

14. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm



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A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

16. What is the solution of the equation $(x-6)(3x-5)=0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

17. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** *zero*

18. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

19. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N

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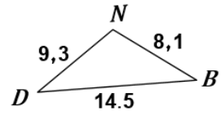

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A. $(y^2+1)(y-4)$ **B.** $(y^2-1)(y-4)$

C. $(y^2+1)(y+4)$ **D.** $(y^2-1)(y+4)$

21. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides

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22. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

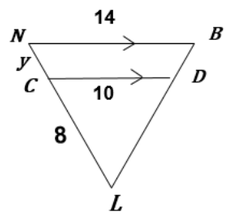
A. 20 **B.** 17 **C.** 19 **D.** 21

23. Which of the following is a linear equation ?

A. $y=3x^2-4$ **B.** $y=-5x-5$

C. $y=\sqrt{x}-7x$ **D.** $xy=-19$

24. In the opposite figure $\Delta NBL \sim \Delta CD\,L$, find the value of y .



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A. $6 < x < 30$ **B.** $30 < x < 6$
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27. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

28. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

29. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

30. If $y = 2x - 4$, what is the value of y when $x = -1$?

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32. What is the y-intercept of the line $12x = 18 + 3y$?

A. $(-6\ ,0)$ **B.** $(0\ ,-6\ )$ **C.** $(6\ ,0)$ **D.** $(0\ ,6)$

33. Find the Solution of the inequality $0.2(y - 10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

34. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN}\,||\,\overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

35. Factor $9^2 - 9x^2$

A. $(3 - 3x)\,(3 + 3x)$ **B.** $(9 - x)\,(9 + 3x)$
C. $(9 - 3x)\,(9 + 3x)$ **D.** $(9 - 3x)\,(9 + x)$

36. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

37. A line passes through the points $(-4\ ,-2)\ and\ (2\ ,4)$.Write its equation in slope-intercept form:

A. $y = x - 2$ **B.** $y = -x + 2$
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38. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

39. Find the central angle of regular polygon Nonagon .

A. $36°$ **B.** $40°$ **C.** $48°$ **D.** $54°$

40. What is the slope of the line $8x - 4y = -16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

41. What is the point- slope form equation of a line with a slope of – 8 and passing through the point (−11,7)

A. $y - 11 = -8(x - 7)$ **B.** $y + 11 = -8(x - 7)$
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A. Independent **B.** Dependent
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43. Solve the compound inequality : $x - 3 < 2$ AND $x + 3 > 2$.

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48. The missing term in $16x^2 + \square + 25$ to be a perfect square is :

A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

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A. $(-1\ ,-2)$ **B.** $(-1\ ,2)$
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50. Find an equation of direct variation , given that y varies directly with x . $y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

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K

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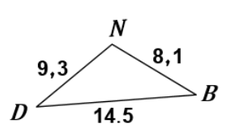

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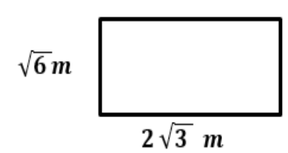

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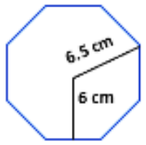

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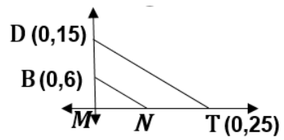

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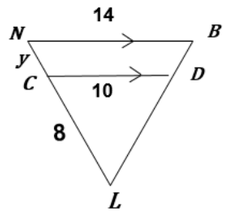

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Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt *Time: 2 : 30 hours*

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Choose the correct answer: *(2 marks for each right answer)*

1. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

2. Find an equation of direct variation , given that y varies directly with x .

$y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

3. Factor the expression $y^3 + y - 4y^2 - 4$

A. $(y^2 + 1)(y - 4)$ **B.** $(y^2 - 1)(y - 4)$

C. $(y^2 + 1)(y + 4)$ **D.** $(y^2 - 1)(y + 4)$

4. Factor $9^2 - 9x^2$

A. $(3 - 3x)(3 + 3x)$ **B.** $(9 - x)(9 + 3x)$

C. $(9 - 3x)(9 + 3x)$ **D.** $(9 - 3x)(9 + x)$

5. What is the solution of the equation $|3x - 1| + 4 = 1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No* solution

6. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

7. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

8. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

9. What is the y-intercept of the line $12x = 18 + 3y$?

A. $(-6\ , 0)$ **B.** $(0\ , -6)$ **C.** $(6\ , 0)$ **D.** $(0\ , 6)$

10. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

C. Line graph **D.** Histogram

11. Find the Greatest common factor (GCF) for the expression . $-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

12. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

13. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y - 11 = -8(x - 7)$ **B.** $y + 11 = -8(x - 7)$

C. $y - 7 = 8(x + 11)$ **D.** $y - 7 = -8(x + 11)$

14. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

15. Find the central angle of regular polygon Nonagon .

A. 36° **B.** 40° **C.** 48° **D.** 54°

16. If $y = 2x - 4$, what is the value of y when $x = -1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

17. Two sides in a triangle are of lengths (12 cm) and (18 cm) .

Find the range possible for the length of the third side (*x*) .

A. $6 < x < 30$ **B.** $30 < x < 6$

C. $12 < x < 18$ **D.** $18 < x < 12$

18. Find the Solution of the inequality $0.2(y - 10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

19. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

20. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

21. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A. Four sides **B.** Five sides

C. Ten sides **D.** Twenty sides

22. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

23. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

24. The missing term in $16x^2 + \square + 25$ to be a perfect square is :

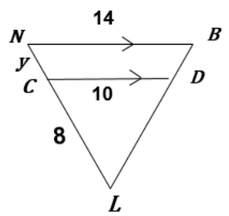
A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

25. Which of the following sets of data has a mean equal to zero ?

A. 3 , 2 , -3 , 1 , -2 **B.** 4 , -3 , -1 , 2 , 3

C. -4 , 2 , -2 , -1 , 3 **D.** -2 , 1 , 3 , -4 , 2

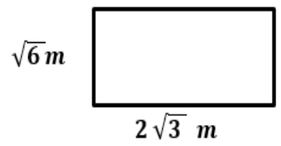
26. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .



A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1

27. Find the area of the rectangle shown .



A. $2\sqrt{3}\ \ m^2$ **B.** $\sqrt{6}\ \ m^2$
C. $6\sqrt{2}\ \ m^2$ **D.** $2\sqrt{6}\ \ m^2$

28. Simplifying of $4\sqrt{3}+4\sqrt{12}-4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

29. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

30. If a line divides two sides of a triangle proportionally , then it is ..... to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

31. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

32. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

33. What is the solution of the equation $(x-6)(3x-5)=0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

34. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN}\,||\overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

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A. Independent **B.** Dependent
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36. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

37. Which of the following is a linear equation ?

A. $y=3x^2-4$ **B.** $y=-5x-5$
C. $y=\sqrt{x}-7x$ **D.** $xy=-19$

38. A line passes through the points $(-4\ ,-2)\ and\ (2\ ,4)$.Write its equation in slope-intercept form:

A. $y=\ x-2$ **B.** $y=\ -x+2$
C. $y=-x-2$ **D.** $y=\ x+2$

39. Solve the compound inequality : $x-3<2$ AND $x+3>2$.

A. $x>-1$ **B.** $-1<x<5$ **C.** $x>-5$ **D.** $x<-1$

40. Which number is not a solution of the inequality $|y+3|<5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

41. Which line is parallel to the line $y=6x-12$?

A. $y+6x=-12$ **B.** $y+6x=12$
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42. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation
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A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

44. Which expression is equal to $4x^2-12x+9$?

A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

45. Multiply $(2+\sqrt{3})(1-\sqrt{3})$ equal :

A. $1-\sqrt{3}$ **B.** $1+\sqrt{3}$ **C.** $-1+\sqrt{3}$ **D.** $-1-\sqrt{3}$

46. Find the solution for the system $\begin{cases} y=x+3 \\ y=4+2x \end{cases}$

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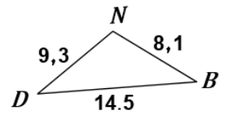
47. Write the angles in order from smallest to largest



A. D,N,B **B.** D,B,N
C. B,N,D **D.** N,D,B

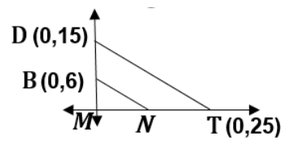
48. What is the slope of the line $8x-4y=-16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

49. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

50. Given that $\Delta\ MNB\sim\Delta\ MTD$, find the coordinates of N .



A.(10 , 0) **B.**(0 , 10)
C.(0 , 15) **D.**(15 , 0)

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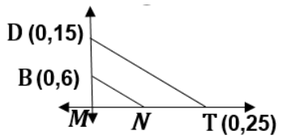

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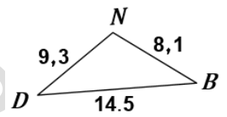

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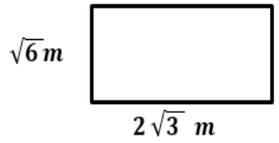

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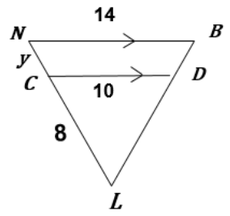

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A. $3\ ,2\ ,-3\ ,1\ ,-2$ **B.** $4\ ,-3\ ,-1\ ,2\ ,3$

C. $-4\ ,2\ ,-2\ ,-1\ ,3$ **D.** $-2\ ,1\ ,3\ ,-4\ ,2$

16. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

17. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

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A. $y-11=-8(x-7)$ **B.** $y+11=-8(x-7)$

C. $y-7=8(x+11)$ **D.** $y-7=-8(x+11)$

19. Find the central angle of regular polygon Nonagon .

A. 36° **B.** 40° **C.** 48° **D.** 54°

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21. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

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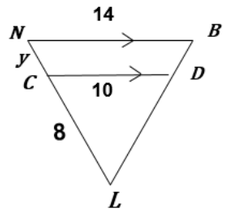
22. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .

A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1



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A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

24. Two sides in a triangle are of lengths (12 cm) and (18 cm) . Find the range possible for the length of the third side (x) .

A. $6<x<30$ **B.** $30<x<6$

C. $12<x<18$ **D.** $18<x<12$

25. Find an equation of direct variation , given that y varies directly with x .

$y=24$ when $x=2$

A. $y=2x$ **B.** $y=24x$ **C.** $y=48x$ **D.** $y=12x$

26. Which number is not a solution of the inequality $|y+3|<5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

27. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

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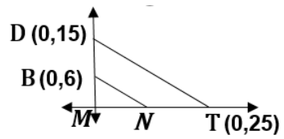

A.(10 , 0) **B.**(0 , 10)

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31. Given B$(-1,0)$, N$(-2,2)$, L$(10,y)$, T$(4,6)$ and $\overline{BN}\,||\,\overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

32. What is the slope of the line $8x-4y=-16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

33. Which line is parallel to the line $y=6x-12$?

A. $y+6x=-12$ **B.** $y+6x=12$

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34. If $y=2x-4$, what is the value of y when $x=-1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

35. Which expression is equal to $4x^2-12x+9$?

A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

36. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

37. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

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A. D,N,B **B.** D,B,N

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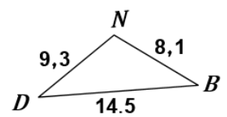

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A. 20 **B.** 17 **C.** 19 **D.** 21

41. Find the area of the rectangle shown .

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

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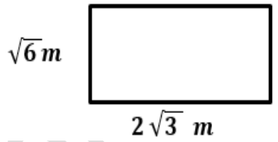

42. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

43. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

44. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

45. What is the solution of the equation $|3x-1|+4=1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** No solution

46. A line passes through the points $(-4\ ,-2)\ and\ (2\ ,4)$.Write its equation in slope-intercept form:

A. $y=x-2$ **B.** $y=-x+2$

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47. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

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48. Multiply $(2+\sqrt{3})(1-\sqrt{3})$ equal :

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50. Factor 9^2-9x^2

A. $(3-3x)(3+3x)$ **B.** $(9-x)(9+3x)$

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Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

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Choose the correct answer: *(2 marks for each right answer)*

1. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

2. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

3. What is the solution of the equation $(x-6)(3x-5)=0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

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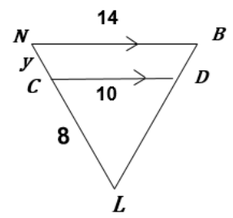

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A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

9. The number $-\sqrt{7}$ is between the two integers.

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10. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

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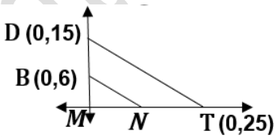

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A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

23. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

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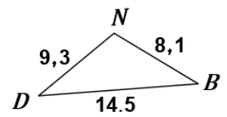

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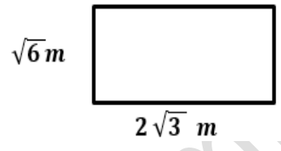

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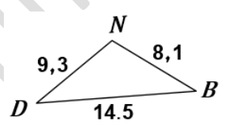

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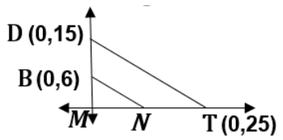
28. Given that $\Delta MNB \sim \Delta MTD$, find the coordinates of ***N*** .



A.(10 , 0) **B.**(0 , 10)

C.(0 , 15) **D.**(15 , 0)

29. Which expression is equal to $4x^2-12x+9$?

A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

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A. $y-11=-8(x-7)$ **B.** $y+11=-8(x-7)$

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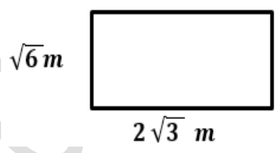
36. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN}\,||\,\overline{LT}$ .what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

37. Find the area of the rectangle shown .



A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

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38. Simplify : $(x^7)^4\times(x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

39. What is the slope of the line $8x-4y=-16$.

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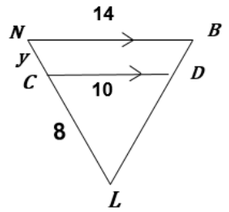

A. 3.2 **B.** 1.2

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49. Find an equation of direct variation , given that y varies directly with x . $y=24$ when $x=2$

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Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

Q

Choose the correct answer: (2 marks for each right answer)

1. Factor the expression y^3+y-4y^2-4

A. $(y^2+1)\,(y-4)$ **B.** $(y^2-1)\,(y-4)$

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2. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

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3. Which of the following is a linear equation ?

A. $y=3x^2-4$ **B.** $y=-5x-5$

C. $y=\sqrt{x}-7x$ **D.** $xy=-19$

4. Find the Solution of the inequality $0.2(y-10)>-1.8$.

A. $y>-1$ **B.** $y>-0.1$ **C.** $y>0.1$ **D.** $y>1$

5. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

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7. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N

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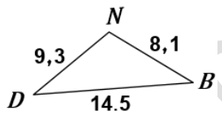

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A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

10. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

C. Line graph **D.** Histogram

11. Find the central angle of regular polygon Nonagon .

A. $36°$ **B.** $40°$ **C.** $48°$ **D.** $54°$

12. After rolling two fair number cubes, find the probability of getting a total sum of 7.

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A. $(3-3x)\,(3+3x)$ **B.** $(9-x)\,(9+3x)$

C. $(9-3x)\,(9+3x)$ **D.** $(9-3x)\,(9+x)$

15. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

16. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

17. Which of the following sets of data has a mean equal to zero ?

A. $3, 2, -3, 1, -2$ **B.** $4, -3, -1, 2, 3$

C. $-4, 2, -2, -1, 3$ **D.** $-2, 1, 3, -4, 2$

18. What is the solution of the equation $|3x-1|+4=1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** No solution

19. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

20. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation

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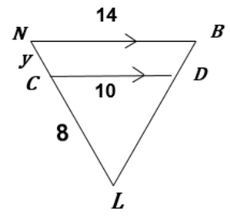

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A. $y-11=-8(x-7)$ **B.** $y+11=-8(x-7)$

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25. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN}\,||\,\overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

26. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

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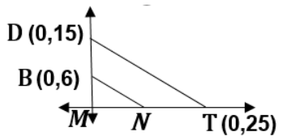

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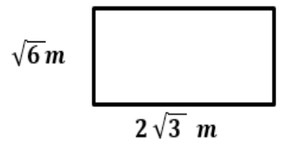
29. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

30. Find the area of the rectangle shown .



A. $2\sqrt{3}\ \ m^2$ **B.** $\sqrt{6}\ \ m^2$
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A. 12 **B.** 18 **C.** 21 **D.** 24

33. If $y = 2x - 4$, what is the value of y when $x = -1$?

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A. $(-6\ , 0)$ **B.** $(0\ , -6)$ **C.** $(6\ , 0)$ **D.** $(0\ , 6)$

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A. 52 cm **B.** 40 cm
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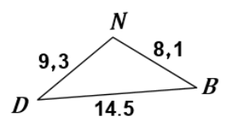

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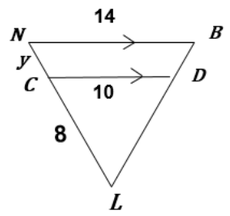

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A. $(3-3x)(3+3x)$ **B.** $(9-x)(9+3x)$

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41. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

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42. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

43. Two sides in a triangle are of lengths (12 cm) and (18 cm) . Find the range possible for the length of the third side (x) .

A. $6 < x < 30$ **B.** $30 < x < 6$

C. $12 < x < 18$ **D.** $18 < x < 12$

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A. $(-1\ , -2)$ **B.** $(-1\ , 2)$

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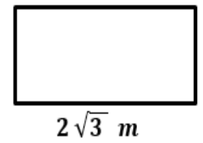

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

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46. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

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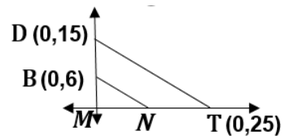

A.(10 , 0) **B.**(0 , 10)

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48. Multiply $(2 + \sqrt{3})(1 - \sqrt{3})$ equal :

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49. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

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Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

S

Choose the correct answer: *(2 marks for each right answer)*

1. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

2. Which of the following is a linear equation ?

A. $y = 3x^2 - 4$ **B.** $y = -5x - 5$

C. $y = \sqrt{x} - 7x$ **D.** $xy = -19$

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A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

4. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

5. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

6. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N

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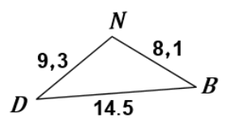

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A. Independent **B.** Dependent

C. Mutually Exclusive Events **D.** All answers are incorrect

8. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** *zero*

9. What is the solution of the equation $|3x - 1| + 4 = 1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No* solution

10. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

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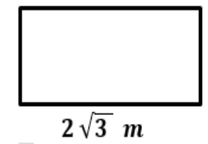

13. What is the y-intercept of the line $12x = 18 + 3y$?

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14. Factor $9^2 - 9x^2$

A. $(3 - 3x)(3 + 3x)$ **B.** $(9 - x)(9 + 3x)$

C. $(9 - 3x)(9 + 3x)$ **D.** $(9 - 3x)(9 + x)$

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A. $6 < x < 30$ **B.** $30 < x < 6$

C. $12 < x < 18$ **D.** $18 < x < 12$

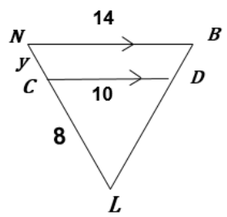
17. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

18. In the opposite figure $\Delta NBL \sim \Delta CD\ L$, find the value of y .

A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1



19. Factor the expression $y^3 + y - 4y^2 - 4$

A. $(y^2 + 1)(y - 4)$ **B.** $(y^2 - 1)(y - 4)$

C. $(y^2 + 1)(y + 4)$ **D.** $(y^2 - 1)(y + 4)$

20. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

21. Find the Solution of the inequality $0.2(y - 10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

22. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

23. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

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24. Solve the compound inequality : $x-3<2$ AND $x+3>2$.

A. $x>-1$ **B.** $-1<x<5$ **C.** $x>-5$ **D.** $x<-1$

25. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y-11=-8(x-7)$ **B.** $y+11=-8(x-7)$

C. $y-7=8(x+11)$ **D.** $y-7=-8(x+11)$

26. Find an equation of direct variation , given that y varies directly with x .

$y=24$ when $x=2$

A. $y=2x$ **B.** $y=24x$ **C.** $y=48x$ **D.** $y=12x$

27. If $y=2x-4$, what is the value of y when $x=-1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

28. Find the solution for the system $\begin{cases} y=x+3 \\ y=4+2x \end{cases}$

A. $(-1\ ,-2)$ **B.** $(-1\ ,2)$

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29. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

30. Which of the following sets of data has a mean equal to zero ?

A. $3\ ,2\ ,-3\ ,1\ ,-2$ **B.** $4\ ,-3\ ,-1\ ,2\ ,3$

C. $-4\ ,2\ ,-2\ ,-1\ ,3$ **D.** $-2\ ,1\ ,3\ ,-4\ ,2$

31. Multiply $(2+\sqrt{3})(1-\sqrt{3})$ equal :

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32. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

33. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides

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34. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

35. Which line is parallel to the line $y=6x-12$?

A. $y+6x=-12$ **B.** $y+6x=12$

C. $y-6x=5$ **D.** $y+6x-5=0$

36. What is the slope of the line $8x-4y=-16$.

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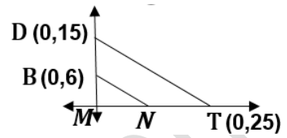
37. Given that $\Delta MNB \sim \Delta MTD$, find the coordinates of N .



A.(10 , 0) **B.**(0 , 10)

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38. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

39. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

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A. 36° **B.** 40° **C.** 48° **D.** 54°

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47. Given B$(-1,0)$, N$(-2,2)$, L$(10,y)$, T$(4,6)$ and $\overline{BN}\,||\,\overline{LT}$.what is the value of y ?

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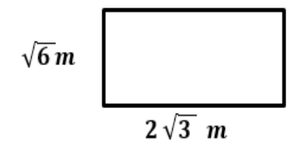

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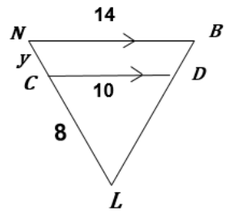

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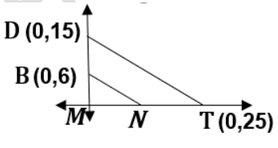

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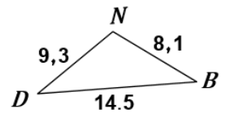

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A. $x>-1$ **B.** $-1<x<5$ **C.** $x>-5$ **D.** $x<-1$

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A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

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U

Choose the correct answer: *(2 marks for each right answer)*

1. Simplifying of $4\sqrt{3}+4\sqrt{12}-4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

2. Which expression is equal to $4x^2-12x+9$?

A. $(x-3)^2$ **B.** $(2x+3)^2$ **C.** $(x+3)^2$ **D.** $(2x-3)^2$

3. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

4. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

5. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

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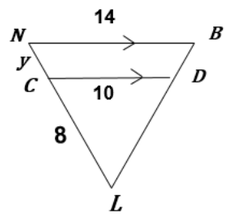
6. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .



A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1

7. Which of the following sets of data has a mean equal to zero ?

A. 3 , 2 , −3 , 1 , −2 **B.** 4 , −3 , −1 , 2 , 3

C. −4 , 2 , −2 , −1 , 3 **D.** −2 , 1 , 3 , −4 , 2

8. Which of the following is a linear equation ?

A. $y=3x^2-4$ **B.** $y=-5x-5$

C. $y=\sqrt{x}-7x$ **D.** $xy=-19$

9. A line passes through the points $(-4,-2)$ *and* $(2,4)$.Write its equation in slope-intercept form:

A. $y=x-2$ **B.** $y=-x+2$

C. $y=-x-2$ **D.** $y=x+2$

10. Two sides in a triangle are of lengths (12 cm) and (18 cm) . Find the range possible for the length of the third side (*x*) .

A. $6<x<30$ **B.** $30<x<6$

C. $12<x<18$ **D.** $18<x<12$

11. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

12. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** −3 and − 2 **C.** 3 and 4 **D.** −4 and − 3

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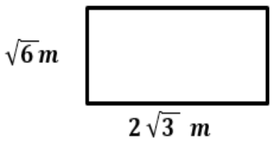
14. Find the area of the rectangle shown .



A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

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17. Find the central angle of regular polygon Nonagon .

A. 36° **B.** 40° **C.** 48° **D.** 54°

18. Which line is parallel to the line $y=6x-12$?

A. $y+6x=-12$ **B.** $y+6x=12$

C. $y-6x=5$ **D.** $y+6x-5=0$

19. Simplify : $(x^7)^4\times(x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

20. Factor 9^2-9x^2

A. $(3-3x)(3+3x)$ **B.** $(9-x)(9+3x)$

C. $(9-3x)(9+3x)$ **D.** $(9-3x)(9+x)$

21. What is the y-intercept of the line $12x=18+3y$?

A. $(-6,0)$ **B.** $(0,-6)$ **C.** $(6,0)$ **D.** $(0,6)$

22. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

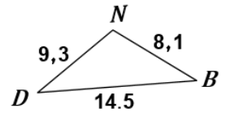
23. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

24. Write the angles in order from smallest to largest

A. D,N,B **B.** D,B,N

C. B,N,D **D.** N,D,B



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A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

26. Multiply $(2+\sqrt{3})(1-\sqrt{3})$ equal :

A. $1-\sqrt{3}$ **B.** $1+\sqrt{3}$ **C.** $-1+\sqrt{3}$ **D.** $-1-\sqrt{3}$

27. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN}\,||\,\overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

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A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

29. What is the type of the two events : appearing of (heads) after flipping a coin, and appearing of (tails) after flipping it a second time?

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30. Find an equation of direct variation , given that y varies directly with x .

$y=24$ when $x=2$

A. $y=2x$ **B.** $y=24x$ **C.** $y=48x$ **D.** $y=12x$

31. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

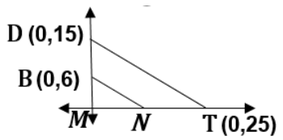
32. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

33. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

34. Given that $\Delta MNB \sim \Delta MTD$, find the coordinates of N .



A.(10 , 0) **B.**(0 , 10)

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36. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

37. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

38. Find the solution for the system $\begin{cases} y=x+3 \\ y=4+2x \end{cases}$

A. $(-1\ ,-2)$ **B.** $(-1\ ,2)$

C. $(2\ ,-1)$ **D.** $(1\ ,-2)$

39. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

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40. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

41. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides

C.Ten sides **D.**Twenty sides

42. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

43. What is the solution of the equation $|3x-1|+4=1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** No solution

44. If $y=2x-4$, what is the value of y when $x=-1$?

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45. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

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A. 2 **B.** -2 **C.** 4 **D.** -4

48. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

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Kurdistan Region Government – Iraq *In the Name of Allah* *Subject: MATHEMATICS*

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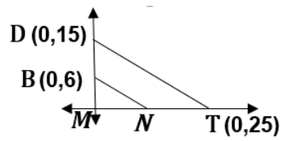

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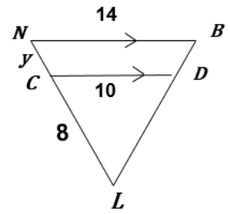

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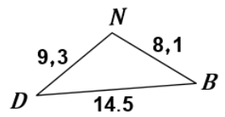

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A. $n\geq 5$ **B.** $n\geq -5$ **C.** $n\leq -5$ **D.** $n\leq 5$

15. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

16. Which of the following sets of data has a mean equal to zero ?

A. $3\ ,2\ ,-3\ ,1\ ,-2$ **B.** $4\ ,-3\ ,-1\ ,2\ ,3$

C. $-4\ ,2\ ,-2\ ,-1\ ,3$ **D.** $-2\ ,1\ ,3\ ,-4\ ,2$

17. What is the solution of the equation $|3x-1|+4=1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No* solution

18. Find the Greatest common factor (GCF) for the expression .$-8x^2-12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

19. What is the slope of the line $8x-4y=-16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

20. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** *zero*

21. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A. Four sides **B.** Five sides

C. Ten sides **D.** Twenty sides

22. If $y=2x-4$, what is the value of y when $x=-1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

23. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

24. Two sides in a triangle are of lengths (12 cm) and (18 cm) . Find the range possible for the length of the third side (x) .

A. $6<x<30$ **B.** $30<x<6$

C. $12<x<18$ **D.** $18<x<12$

25. Find the highest quartile for the given data set :

$13\ ,14\ ,18\ ,18\ ,24\ ,21\ ,12\ ,21\ ,11\ ,24\ ,15\ ,13$

A. 12 **B.** 18 **C.** 21 **D.** 24

26. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

27. Which line is parallel to the line $y=6x-12$?

A. $y+6x=-12$ **B.** $y+6x=12$

C. $y-6x=5$ **D.** $y+6x-5=0$

28. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

29. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

30. Which number is not a solution of the inequality $|y+3|<5$?

A. -1 **B.** 1 **C.** 3 **D.** -3

31. Find an equation of direct variation , given that y varies directly with x .
$y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

32. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

33. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y-11=-8(x-7)$ **B.** $y+11=-8(x-7)$
C. $y-7=8(x+11)$ **D.** $y-7=-8(x+11)$

34. Simplifying of $4\sqrt{3}+4\sqrt{12}-4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

35. Find the solution for the system $\begin{cases} y=x+3 \\ y=4+2x \end{cases}$

A. $(-1\ ,-2)$ **B.** $(-1\ ,2)$
C. $(2\ ,-1)$ **D.** $(1\ ,-2)$

36. Solve the compound inequality : $x-3<2$ AND $x+3>2$.

A. $x>-1$ **B.** $-1<x<5$ **C.** $x>-5$ **D.** $x<-1$

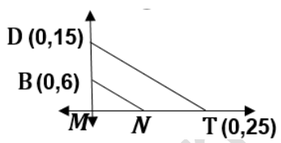
37. What is the type of the two events : appearing of (heads) after flipping a coin, and appearing of (tails) after flipping it a second time?

A. Independent **B.** Dependent
C. Mutually Exclusive Events **D.** All answers are incorrect

38. The missing term in $16x^2+\square+25$ to be a perfect square is :

A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

39. Given that $\Delta MNB \sim \Delta MTD$, find the coordinates of ***N*** .



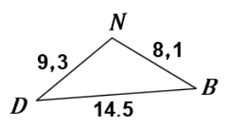
A.(10 , 0) **B.**(0 , 10)
C.(0 , 15) **D.**(15 , 0)

40. Given B$(-1,0)$, N$(-2,2)$, L(10,y), T(4,6) and $\overline{BN}\,||\,\overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

41. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N
C. B, N, D **D.** N, D, B



42. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

43. A line passes through the points $(-4\ ,-2)\ and\ (2\ ,4)$.Write its equation in slope-intercept form:

A. $y = x-2$ **B.** $y = -x+2$
C. $y = -x-2$ **D.** $y = x+2$

44. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

45. Which of the following is a linear equation ?

A. $y = 3x^2-4$ **B.** $y = -5x-5$
C. $y = \sqrt{x}-7x$ **D.** $xy = -19$

46. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

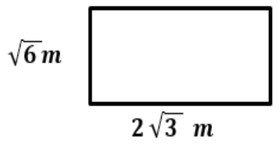
A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

47. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation
C. Scatterplot **D.** No correlation

48. Find the area of the rectangle shown .

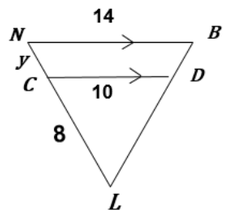
A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$
C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$



49. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

50. In the opposite figure $\Delta NBL \sim \Delta CD\,L$, find the value of y .



A. 3.2 **B.** 1.2
C. 2.3 **D.** 4.1

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

X

Choose the correct answer: *(2 marks for each right answer)*

1. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

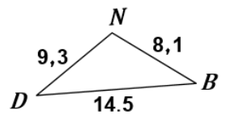
2. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

3. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N

C. B, N, D **D.** N, D, B



4. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

5. What is the slope of the line $8x - 4y = -16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

6. Find the Solution of the inequality $0.2(y - 10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

7. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

8. Find the solution for the system $\begin{cases} y = x + 3 \\ y = 4 + 2x \end{cases}$

A. $(-1\ , -2)$ **B.** $(-1\ , 2)$

C. $(2\ , -1)$ **D.** $(1\ , -2)$

9. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation

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10. A line passes through the points $(-4\ , -2)\ and\ (2\ , 4)$.Write its equation in slope-intercept form:

A. $y = x - 2$ **B.** $y = -x + 2$

C. $y = -x - 2$ **D.** $y = x + 2$

11. Find the central angle of regular polygon Nonagon .

A. $36°$ **B.** $40°$ **C.** $48°$ **D.** $54°$

12. An irrational number that is less than -3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

13. If a line divides two sides of a triangle proportionally , then it is …… to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

14. Which expression is equal to $4x^2 - 12x + 9$?

A. $(x - 3)^2$ **B.** $(2x + 3)^2$ **C.** $(x + 3)^2$ **D.** $(2x - 3)^2$

15. What is the y-intercept of the line $12x = 18 + 3y$?

A. $(-6\ , 0)$ **B.** $(0\ , -6)$ **C.** $(6\ , 0)$ **D.** $(0\ , 6)$

16. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

17. Find the area of the rectangle shown .

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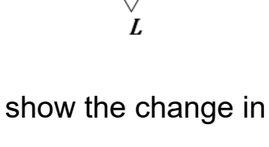

18. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

19. Factor the expression $y^3 + y - 4y^2 - 4$

A. $(y^2 + 1)(y - 4)$ **B.** $(y^2 - 1)(y - 4)$

C. $(y^2 + 1)(y + 4)$ **D.** $(y^2 - 1)(y + 4)$

20. Factor $9^2 - 9x^2$

A. $(3 - 3x)(3 + 3x)$ **B.** $(9 - x)(9 + 3x)$

C. $(9 - 3x)(9 + 3x)$ **D.** $(9 - 3x)(9 + x)$

21. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

22. The missing term in $16x^2 + \square + 25$ to be a perfect square is :

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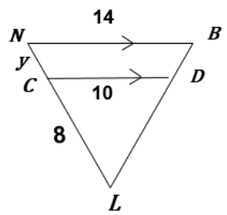

24. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

C. Line graph **D.** Histogram

25. Which line is parallel to the line $y = 6x - 12$?

A. $y + 6x = -12$ **B.** $y + 6x = 12$

C. $y - 6x = 5$ **D.** $y + 6x - 5 = 0$

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A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

30. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN} \,||\, \overline{LT}$.what is the value of y ?

A. 6 **B.** -18 **C.** -6 **D.** 18

31. What is the point- slope form equation of a line with a slope of – 8 and passing through the point (−11,7)

A. $y - 11 = -8(x - 7)$ **B.** $y + 11 = -8(x - 7)$

C. $y - 7 = 8(x + 11)$ **D.** $y - 7 = -8(x + 11)$

32. Which of the following sets of data has a mean equal to zero ?

A. 3 , 2 , −3 , 1 , −2 **B.** 4 , −3 , −1 , 2 , 3

C. −4 , 2 , −2 , −1 , 3 **D.** −2 , 1 , 3 , −4 , 2

33. If $y = 2x - 4$, what is the value of y when $x = -1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

34. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

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Find the range possible for the length of the third side (x) .

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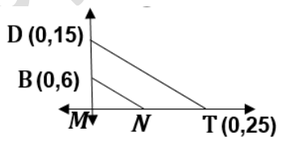

A.(10 , 0) **B.**(0 , 10)

C.(0 , 15) **D.**(15 , 0)

39. What is the solution of the equation $(x - 6)(3x - 5) = 0$?

A. 6 and $\frac{5}{3}$ **B.** -6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** -6 and $\frac{3}{5}$

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41. What is the solution of the equation $|3x - 1| + 4 = 1$?

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42. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

43. Find the Solution of the inequality $-40 \geq 8n$.

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44. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A.Four sides **B.** Five sides

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45. Multiply $(2 + \sqrt{3})(1 - \sqrt{3})$ equal :

A. $1 - \sqrt{3}$ **B.** $1 + \sqrt{3}$ **C.** $-1 + \sqrt{3}$ **D.** $-1 - \sqrt{3}$

46. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

47. Which of the following is a linear equation ?

A. $y = 3x^2 - 4$ **B.** $y = -5x - 5$

C. $y = \sqrt{x} - 7x$ **D.** $xy = -19$

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Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

Y

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5. Simplifying of $4\sqrt{3} + 4\sqrt{12} - 4\sqrt{48}$ equal to :

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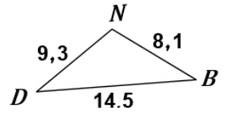

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C. $-4, 2, -2, -1, 3$ **D.** $-2, 1, 3, -4, 2$

25. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

26. The correlation between the number of hours a plane is in flight and the number of Kilometers flown …

A. A negative correlation **B.** A positive correlation

C. Scatterplot **D.** No correlation

27. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

28. Solve the compound inequality : $x - 3 < 2$ AND $x + 3 > 2$.

A. $x > -1$ **B.** $-1 < x < 5$ **C.** $x > -5$ **D.** $x < -1$

29. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11,7)$

A. $y-11=-8(x-7)$ **B.** $y+11=-8(x-7)$

C. $y-7=8(x+11)$ **D.** $y-7=-8(x+11)$

30. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN}\,||\overline{LT}$.what is the value of y ?

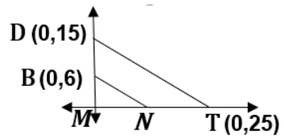
A. 6 **B.** -18 **C.** -6 **D.** 18

31. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm

C. 38.3 cm **D.** 48 cm

32. Given that $\Delta MNB \sim \Delta MTD$, find the coordinates of N .



A.(10 , 0) **B.**(0 , 10)

C.(0 , 15) **D.**(15 , 0)

33. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

34. If a line divides two sides of a triangle proportionally , then it is ..... to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

35. Which of the following is a linear equation ?

A. $y=3x^2-4$ **B.** $y=-5x-5$

C. $y=\sqrt{x}-7x$ **D.** $xy=-19$

36. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

37. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table

C. Line graph **D.** Histogram

38. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

39. Which line is parallel to the line $y=6x-12$?

A. $y+6x=-12$ **B.** $y+6x=12$

C. $y-6x=5$ **D.** $y+6x-5=0$

40. What is the y-intercept of the line $12x=18+3y$?

A. $(-6\ ,0)$ **B.** $(0\ ,-6)$ **C.** $(6\ ,0)$ **D.** $(0\ ,6)$

41. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

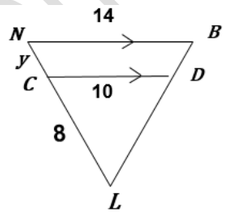
A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

42. Factor 9^2-9x^2

A. $(3-3x)(3+3x)$ **B.** $(9-x)(9+3x)$

C. $(9-3x)(9+3x)$ **D.** $(9-3x)(9+x)$

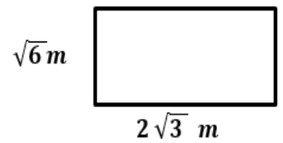
43. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .



A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1

44. Find the area of the rectangle shown .



A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$

45. What is the type of the two events : appearing of (heads) after flipping a coin, and appearing of (tails) after flipping it a second time?

A. Independent **B.** Dependent

C. Mutually Exclusive Events **D.** All answers are incorrect

46. Find the solution for the system $\begin{cases} y=x+3 \\ y=4+2x \end{cases}$

A. $(-1\ ,-2)$ **B.** $(-1\ ,2)$

C. $(2\ ,-1)$ **D.** $(1\ ,-2)$

47. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

48. What is the slope of the line $8x-4y=-16$.

A. 2 **B.** -2 **C.** 4 **D.** -4

49. A line passes through the points $(-4\ ,-2)\ and\ (2\ ,4)$.Write its equation in slope-intercept form:

A. $y=x-2$ **B.** $y=-x+2$

C. $y=-x-2$ **D.** $y=x+2$

50. Find the Solution of the inequality $0.2(y-10)>-1.8$.

A. $y>-1$ **B.** $y>-0.1$ **C.** $y>0.1$ **D.** $y>1$

Kurdistan Region Government – Iraq **In the Name of Allah** **Subject: MATHEMATICS**

Ministry of education-High Committee of General Examinations

National Examinations For Basic Schools (9th Grade)

The Academic year: 2025-2026 First Attempt **Time: 2 : 30 hours**

Fingerprint

Z

Choose the correct answer: *(2 marks for each right answer)*

1. Given B(−1,0), N(−2,2), L(10,y), T(4,6) and $\overline{BN} \,||\, \overline{LT}$.what is the value of y ?

A. 6 **B.** −18 **C.** − 6 **D.** 18

2. An irrational number that is less than −3

A. -2 **B.** $-\sqrt{10}$ **C.** $-\sqrt{16}$ **D.** $zero$

3. The local weather forecaster said there is a 15% chance of rain tomorrow, What is the probability that it will NOT rain tomorrow

A. 0.25 **B.** 0.85 **C.** 85 **D.** 25

4. Bawar threw a die and a coin What is the probability of getting a number greater than 4 on the die and heads on the coin

A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{6}$ **D.** $\frac{1}{8}$

5. The missing term in $16x^2 + \square + 25$ to be a perfect square is :

A. $40x$ **B.** $20x$ **C.** $10x$ **D.** $80x$

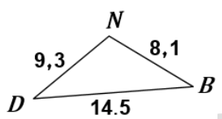
6. Find an equation of direct variation , given that y varies directly with x . $y = 24$ when $x = 2$

A. $y = 2x$ **B.** $y = 24x$ **C.** $y = 48x$ **D.** $y = 12x$

7. Write the angles in order from smallest to largest

A. D, N, B **B.** D, B, N

C. B, N, D **D.** N, D, B



8. Find the central angle of regular polygon Nonagon .

A. 36° **B.** 40° **C.** 48° **D.** 54°

9. Which number is not a solution of the inequality $|y + 3| < 5$?

A. −1 **B.** 1 **C.** 3 **D.** −3

10. Which expression is equal to $4x^2 - 12x + 9$?

A. $(x - 3)^2$ **B.** $(2x + 3)^2$ **C.** $(x + 3)^2$ **D.** $(2x - 3)^2$

11. Multiply $(2 + \sqrt{3})(1 - \sqrt{3})$ equal :

A. $1 - \sqrt{3}$ **B.** $1 + \sqrt{3}$ **C.** $-1 + \sqrt{3}$ **D.** $-1 - \sqrt{3}$

12. What is the type of the two events : appearing of (heads) after flipping a coin, and appearing of (tails) after flipping it a second time?

A. Independent **B.** Dependent

C. Mutually Exclusive Events **D.** All answers are incorrect

13. A line passes through the points $(-4, -2)$ *and* $(2, 4)$.Write its equation in slope-intercept form:

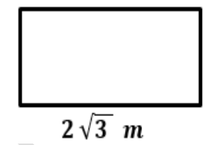
A. $y = x - 2$ **B.** $y = -x + 2$

C. $y = -x - 2$ **D.** $y = x + 2$

14. Find the area of the rectangle shown .

A. $2\sqrt{3}\ m^2$ **B.** $\sqrt{6}\ m^2$

C. $6\sqrt{2}\ m^2$ **D.** $2\sqrt{6}\ m^2$



15. What is the number of sides of in a regular polygon where the measure of each interior angle is equal to four times the measure of each exterior angle ?

A. Four sides **B.** Five sides

C. Ten sides **D.** Twenty sides

16. Simplify : $(x^7)^4 \times (x^4)^{-7}$

A. x^{11} **B.** x^{28} **C.** 1 **D.** x^7

17. What is the solution of the equation $(x - 6)(3x - 5) = 0$?

A. 6 and $\frac{5}{3}$ **B.** −6 and $\frac{5}{3}$ **C.** 6 and $\frac{3}{5}$ **D.** −6 and $\frac{3}{5}$

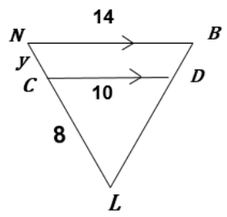
18. What is the slope of the line $8x - 4y = -16$.

A. 2 **B.** −2 **C.** 4 **D.** −4

19. In the opposite figure $\Delta NBL \sim \Delta CDL$, find the value of y .

A. 3.2 **B.** 1.2

C. 2.3 **D.** 4.1



20. What is the y-intercept of the line $12x = 18 + 3y$?

A. $(-6, 0)$ **B.** $(0, -6)$ **C.** $(6, 0)$ **D.** $(0, 6)$

21. Find the highest quartile for the given data set :

13 , 14 , 18 , 18 , 24 , 21 , 12 , 21 , 11 , 24 , 15 , 13

A. 12 **B.** 18 **C.** 21 **D.** 24

22. Find the mode of the data set : 4 , 14 , 21 , 12 , 21 , 17 , 12 , 24 , 21 , 24

A. 20 **B.** 17 **C.** 19 **D.** 21

23. Three coins are tossed find the probability of getting exactly two heads

A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{8}$ **D.** $\frac{1}{4}$

24. Factor $9^2 - 9x^2$

A. $(3 - 3x)(3 + 3x)$ **B.** $(9 - x)(9 + 3x)$

C. $(9 - 3x)(9 + 3x)$ **D.** $(9 - 3x)(9 + x)$

25. What is the point- slope form equation of a line with a slope of – 8 and passing through the point $(-11, 7)$

A. $y - 11 = -8(x - 7)$ **B.** $y + 11 = -8(x - 7)$

C. $y - 7 = 8(x + 11)$ **D.** $y - 7 = -8(x + 11)$

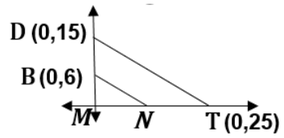
26. Two sides in a triangle are of lengths (12 cm) and (18 cm) .
Find the range possible for the length of the third side (x) .

A. $6 < x < 30$ **B.** $30 < x < 6$
C. $12 < x < 18$ **D.** $18 < x < 12$

27. What is the perimeter of the shown regular octagon ?

A. 52 cm **B.** 40 cm
C. 38.3 cm **D.** 48 cm

28. Given that $\Delta\, MNB \sim \Delta\, MTD$,
find the coordinates of ***N*** .



A.(10 , 0) **B.**(0 , 10)
C.(0 , 15) **D.**(15 , 0)

29. Solve the compound inequality : $x - 3 < 2$ AND $x + 3 > 2$.

A. $x > -1$ **B.** $-1 < x < 5$ **C.** $x > -5$ **D.** $x < -1$

30. Which of the following is a linear equation ?

A. $y = 3x^2 - 4$ **B.** $y = -5x - 5$
C. $y = \sqrt{x} - 7x$ **D.** $xy = -19$

31. Find the solution for the system $\begin{cases} y = x + 3 \\ y = 4 + 2x \end{cases}$

A. $(-1\ , -2)$ **B.** $(-1\ , 2)$
C. $(2\ , -1)$ **D.** $(1\ , -2)$

32. What is the solution of the equation $|\,3x - 1\,| + 4 = 1$?

A. -2 and $\frac{2}{3}$ **B.** -2 and $\frac{-2}{3}$ **C.** 2 and $\frac{2}{3}$ **D.** *No* solution

33. Simplify $\frac{\sqrt{72}}{\sqrt{6}}$:

A. $2\sqrt{3}$ **B.** $2\sqrt{2}$ **C.** $3\sqrt{2}$ **D.** $3\sqrt{3}$

34. Find the Solution of the inequality $-40 \geq 8n$.

A. $n \geq 5$ **B.** $n \geq -5$ **C.** $n \leq -5$ **D.** $n \leq 5$

35. If $y = 2x - 4$, what is the value of y when $x = -1$?

A. -6 **B.** -2 **C.** 6 **D.** 2

36. The similarity ratio of two triangles is $\frac{16}{9}$ .What is the ratio of their perimeters ?

A. $\frac{16}{9}$ **B.** $\frac{4}{3}$ **C.** $\frac{256}{81}$ **D.** $\frac{3}{4}$

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A. $y + 6x = -12$ **B.** $y + 6x = 12$
C. $y - 6x = 5$ **D.** $y + 6x - 5 = 0$

38. The number $-\sqrt{7}$ is between the two integers.

A. 2 and 3 **B.** -3 and -2 **C.** 3 and 4 **D.** -4 and -3

39. If a line divides two sides of a triangle proportionally , then it is ..... to the third side.

A. perpendicular **B.** Parallel **C.** Congruent **D.** Similar

40. Simplifying of $4\sqrt{3} + 4\sqrt{12} - 4\sqrt{48}$ equal to :

A. $-4\sqrt{3}$ **B.** $-6\sqrt{3}$ **C.** $4\sqrt{3}$ **D.** $8\sqrt{3}$

41. The correlation between the number of hours a plane is in flight and the number of Kilometers flown ...

A. A negative correlation **B.** A positive correlation
C. Scatterplot **D.** No correlation

42. After rolling two fair number cubes, find the probability of getting a total sum of 7.

A. $\frac{36}{7}$ **B.** $\frac{1}{7}$ **C.** $\frac{7}{36}$ **D.** $\frac{1}{6}$

43. Find in terms of x , the area of a right triangle the lengths of perpendicular sides are $3x$ and $4x$.

A. $6x$ **B.** $12x$ **C.** $12x^2$ **D.** $6x^2$

44. Find the Greatest common factor (GCF) for the expression .$-8x^2 - 12x$?

A. $-8x$ **B.** $-4x^2$ **C.** $-4x$ **D.** $-8x^2$

45. Factor the expression $y^3 + y - 4y^2 - 4$

A. $(y^2 + 1)\,(y - 4)$ **B.** $(y^2 - 1)\,(y - 4)$
C. $(y^2 + 1)\,(y + 4)$ **D.** $(y^2 - 1)\,(y + 4)$

46. A bag contains 8 red marbles and 2 blue marbles .What is the probability , written as a fraction , of choosing a red marble first and then a blue marble from the bag ?

A. $\frac{2}{5}$ **B.** $\frac{2}{9}$ **C.** $\frac{16}{45}$ **D.** $\frac{8}{45}$

47. A landscaping company charges 35 000 D for a consultation fee , plus 50 000 D per hour. How much would it cost for 3 hours?

A. 185 000 **B.** 150 000 **C.** 225 000 **D.** 135 000

48. Find the Solution of the inequality $0.2(y - 10) > -1.8$.

A. $y > -1$ **B.** $y > -0.1$ **C.** $y > 0.1$ **D.** $y > 1$

49. Which of the following sets of data has a mean equal to zero ?

A. 3 , 2 , -3 , 1 , -2 **B.** 4 , -3 , -1 , 2 , 3
C. -4 ,2 , -2 , -1 , 3 **D.** -2 ,1 , 3 , -4 , 2

50. Which data display is most appropriate to show the change in students pass rates over a three-year period ?

A. Bar graph **B.** Frequency table
C. Line graph **D.** Histogram