ADDIS ABABA CITY ADMINISTRATION EDUCATION BUREAU ARADA SUB-CITY

GRADE 8 MATHEMATICS MODEL EXAMINATIONS IN 2018 E.C/ 2026 G.C

NUMBER OF QUESTIONS: 40 TIME ALLOWED: 1:00 hour

GENERAL DIRECTIONS

THIS MODEL EXAMINATION CONTAINS 40 MULTIPLE CHOICE **MATHEMATICS** QUESTIONS.

THERE IS ONLY ONE BEST ANSWER FOR EACH QUESTION. CHOOSE THE CORRECT ANSWER FROM THE SUGGESTED OPTIONS AND BLACKEN THE LETTER OF YOUR CHOICE ON THE ANSWER SHEET. USE ONLY PENCIL TO MARK YOUR ANSWERS.YOUR ANSWER MARKS SHOULD BE HEAVY AND DARK, COVERING THE ANSWER SPACE COMPLETELY. PLEASE ERASE ALL UNNECESSARY MARKS COMPLETELY INCLUDING ANSWERS YOU HAVE CHANGED FROM YOUR ANSWER SHEET.

YOU ARE ALLOWED TO WORK ON THE EXAM FOR 1 HOUR. WHEN TIME IS CALLED, YOU MUST IMMEDIATELY STOP WORKING, PUT YOUR PENCIL DOWN, AND WAIT FOR FURTHER INSTRUCTIONS.

ANY FORM OF CHEATING OR AN ATTEMPT TO CHEAT IN THE EXAMINATION WILL RESULT IN AN AUTOMATIC DISMISSAL FROM THE EXAMINATION HALL AND CANCELLATION OF YOUR SCORE(S).

PLEASE MAKE SURE THAT YOU HAVE WRITTEN ALL THE REQUIRED INFORMATION ON THE ANSWER SHEET BEFORE YOU START TO WORK ON THE EXAMINATION.

DO NOT TURN THIS PAGE OVER UNTIL YOU ARE TOLD TO DO SO.

Choice the correct answer from the given alternatives.

1. If A= {4, 4, 4, 4} then how many elements does set A contain?

A.3 B. 4 C. 1 D.2

2. From the following statement which one is **True?**

A. If B⊂A then A∩B = A C. All equivalent sets are equal.

B. A set is a subset of itself. D. for any set A, A⊂A

3. If set A = {a, b}, B ={c, d} then A ∩ B = _____

A. {a, b, c, d} B. { } C. {c, d } D. {c }

4. Which one of the following is **not true**?

A. W ∩ ℕ = ℕ B. 0 ∪ ℕ =W C. W ∪ ℕ = W D. W ∪ ℕ =ℤ

5. From the following numbers which one is **not** an integer?

A. 1.02 B. 12 C. -194 D. 0

6. When we arrange the numbers -9,-99, -69, -59, -89 in ascending order which one is correct? . A. -99, -89, -69, -59, -9 C. -59, -69, -89, -99, -9

B .-9, -59, -69, -89, -99 D. -9, -99, -89, -59, -69

7. -2 – (-4) is equal to:

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

8. The product of -1 (-1) (-1) (-1) (-1) (-1) = _____

A. 1 B. -1 C. 0. D. -6

9. 1 ÷ 20 = _____

A.0.5 B. 0.15 C. 0.05 D. 0.04

10. From the following statement which one is **True**?

A. The sum of two opposite integer is one.

B. The product of an odd number of negative factor is negative.

C. Odd integer is an integer that can be divisible by 2.

D. The opposite of zero is one.

11. What is the numerical coefficient in the expression $\frac{a^3b^4c^5}{3}$ - 3

A. -3 B. $\frac{1}{3}$ C. 1 D. 3

12. The slope of the line passing through the point P(0,2) and Q(a,5) is -1, what is the value of **a**?

A. 3 B. 5 C. -3 D. $\frac{1}{5}$

13. The solution of $\frac{3x}{2} - \frac{-1}{3} = \frac{x}{3} + \frac{5}{6}$ is

A. 1 B. $\frac{3}{7}$ C. $\frac{3}{11}$ D. -1

14. Which of the following value of x satisfies the equation 2(3x-1) =4(x+1)

A. $\frac{1}{5}$ B. 3 C. 2 D. 1

15. The sum of two numbers is 20. Twice the first is equal to 8 times the second, what is the larger of the two number?

A. 4 B. 16 C. 20 D. 15

16. If the numbers 4, 5, x and 10 are in order of proportion , then what is the value x?

A. 40 B. 16 C. 5 D. 8

17. x is inversely proportional to y. if x=12, then, y =5 what is the value of y when x = 10

A. 12 B. 8 C. 60 D. 6

18. What is 5% of 200?

A.10 B.20 C. 30 D. 50

19. What is the percent increase from 150 to 600?

A. 9% B. 300% C. 90% D. 450%

20. An article was bought for birr 2000 and sold by birr 2200. What is the profit percent?

A. 10% B. 20% C. 30% D. 50%

21. In a given class there are 60 students. If the ratio of boys to girls is 2:3, what is the number of girls in the class?

A. 24. B. 36. C. 32 D. 28

22. What is the solution set of equation 3- 2|x - 5| = 9

A.{-3 , 8} B. {3, -8} C. { } D. {3,8}

23. Which of the following lists of number is written in an ascending order?

A. $\frac{1}{5}, \frac{2}{3}, \frac{3}{2}, 1\frac{3}{4}$ C. $\frac{1}{5}, \frac{2}{3}, 1\frac{3}{4}, \frac{3}{2}$

B. $\frac{2}{3}, \frac{1}{5}, \frac{3}{2}, 1\frac{3}{4}$ D. $\frac{1}{5}, 1\frac{3}{4}, \frac{2}{3}, \frac{3}{2}$

24. The simplified form of the expression $\frac{3}{4} + 2[2 \div \frac{2}{3}]$ is

A. $\frac{4}{27}$ B. $\frac{27}{4}$ C. $\frac{15}{4}$ D. $\frac{1}{8}$

25. What is the value of $\frac{(-2X)^2 - (6y)^2}{x-y}$ when x = -4 and y = -2?

A. -20. B.-40 C. 18 D. 40

26. The simplified form of $\frac{\frac{2}{3} \div \left(\frac{1}{2} + \frac{4}{5}\right)}{\frac{5}{6} + \frac{1}{3}\left(\frac{2}{3} \div \frac{4}{3}\right)}$ = _____

A. $\frac{20}{35}$ B. 1 C. $\frac{20}{39}$ D. $\frac{1}{2}$

27.Robel deposited 10,000 Birr in a Bank with simple interest rate of 10% per annum, when will his money be doubled?

A. in 10 years B. in 15 years C. in 20 years D. in 30 years

28. The simplified form of $\sqrt{\frac{2}{5}} \times \sqrt{\frac{125}{8}}$ is

A. $\frac{5}{2}$ B. $\frac{3}{2}$ C. 0.4 D. 5

29. Which of the following is **not true** about square or cube number?

A. Cube number can be negative C. Cube number can be positive

B. Square number can be negative D. Square number can be positive

30. What is the cube root of the number 0.343?

A. 0.3 B. 0.7 C. 0.4 D. 0.27

31. $\sqrt[3]{216}$ - $\sqrt[3]{64}$ is equal to

A. 3 B. 4 C. 2 D. 6

32. What is the side length of square with area $100cm^3$?

A. 5cm B. 20cm C. 10cm D. 8cm

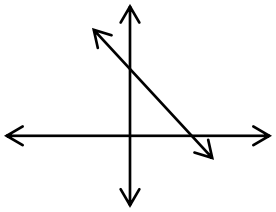
33. Which one of the following point not lies on the line 3x-2y=6?

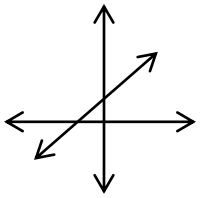
A. (2, 0) B. (-2,-6) C. (0,-3) D. (1, -2)

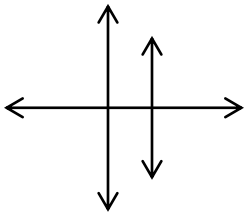
34. What is the solution set of the inequality $\frac{2}{3}x - 1 < \frac{2}{3}x - \frac{1}{6}$ in the set of integers?

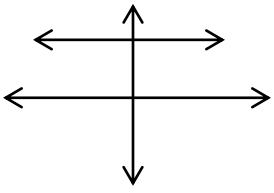
A. { } B. {1, 2, 3, 4} C. {x: x ∈ ℤ} D. {3, 4, 5,…}

35. Which one of the following graph has positive slope?

A. 

C. 

B. 

D. 

36. Abel is 20 years older than Dawit, in 10 years' time Abel will be double the age of Dawit. How old is Dawit today? A. 10 years C. 20 years

B. 15 years D. 25 years

37. Which of the following inequality **has no** solution in the set of natural numbers?

A. $2(x + 4) < 2x + 8$ C. $4(2+x) > 3x - 4$

B. $x > 4$ D. $2x + 12 > 21$

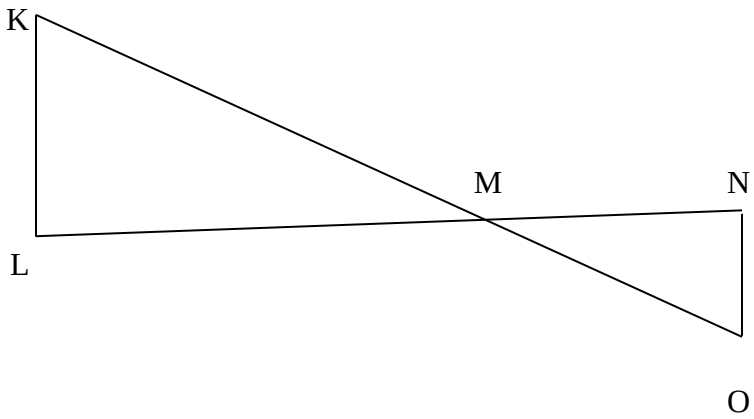
38. In the figure below KL ⊥ LN, ON ⊥ LN and K, M and O are on the same line.
If $\Delta KLM \sim \Delta ONM$, then which of the following theorem prove the similarity?

A. ASA theorem

B. AA theorem

C. SSS theorem

D. SAS theorem



39. The sides of a pentagon measures 10cm, 12cm, 8cm, 6cm and 4cm. The longest side of a similar pentagon measures 6cm. what is the measure of the shortest side of a similar polygon.

A. 2cm B. 5cm C. 4cm D. 3cm

40. The area of two similar triangles is $24cm^2$ and $216cm^2$ respectively. What is the perimeter of the larger triangle if the perimeter of the smaller triangle is 20cm?

A. 60 cm B. 40cm C. 30cm D. 20cm