

**ARADA SUB CITY EDUCATIONAL OFFICE MODEL EXAMINATION
FOR GRADE EIGHT MATHEMATICS,**

TIR 2016/ JANUARY 2024

NUMBER OF QUESTIONS: 40

TIME ALLOWED: - 1 HOUR

GENERAL DIRECTIONS

THIS BOOKLET CONTAINS **MATHEMATICS** EXAMINATION. IN THIS EXAMINATION, THERE ARE A TOTAL OF **40 MULTIPLE CHOICE** QUESTIONS. CAREFULLY SELECT THE BEST ANSWER AND **BLACKEN ONLY** THE LETTER OF YOUR CHOICE ON THE SEPARATE **ANSWER SHEET** PROVIDED. FOLLOW THE INSTRUCTIONS ON THE ANSWER SHEET AND THE EXAMINATION PAPER CAREFULLY. USE ONLY **PENCIL** TO MARK YOUR ANSWERS. YOUR ANSWER MARK SHOULD BE **HEAVY AND DARK**, COVERING THE ANSWER SPACE COMPLETELY. PLEASE ERASE ALL UNNECESSARY MARKS COMPLETELY 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 UNTIL YOU ARE TOLD TO DO SO.

INSTRUCTION-I CHOOSE THE CORRECT ANSWER FROM THE GIVEN OPTIONS AND BLACKEN THE LETTER OF YOUR CHOICE ON THE ANSWER SHEET PROVIDED

1. Which one of the following is **not** true the relation of the set of numbers?
A. $1 \in N$ B. $0 \in W$ C. $\frac{1}{2} \in Q$ D. $0.5 \in Z$
2. If $\frac{a}{b} > \frac{c}{d}$, b and $d \neq 0$, then which one of the following is correct?
A. $ad > bc$ B. $ad < bc$ C. $ad = bc$ D. $ac > bd$
3. If $a=4$, $b=3$ and $c=-2$, then which one of the following is the value of $3a-2b+3c$.
A. 12 B. -12 C. 0 D. -24
4. Which one of the following is the correct increasing order of the following decimals?
6.606, 0.6, 0.66 and 6.06
A. 0.6, 0.66, 6.606, 6.06 B. 0.6, 0.66, 6.06, 6.606
C. 0.66, 0.6, 6.06, 6.606 D. 0.66, 0.6, 6.606, 6.06
5. What is the product of $2\frac{4}{5}$ and $2\frac{1}{2}$?
A. 7 B. 7.5 C. $\frac{14}{5}$ D. $\frac{5}{2}$
6. Which one of the following is the solution set of an absolute value of equation $3-2|3x+4|=-1$.
A. $\{\frac{2}{3}, 2\}$ B. $\{0, \frac{8}{3}\}$ C. $\emptyset$ D. $\{-\frac{2}{3}, -2\}$
7. What is the difference of $\frac{2}{7}$ $\frac{3}{8}$?
A. $\frac{27}{56}$ B. $-\frac{5}{56}$ C. $\frac{37}{56}$ D. $\frac{10}{54}$
8. Which one of the following is the list of the elements of the set $\{x: -2 \leq x \leq 1, x \in Z\}$ on the number line.
A. $\{-2, -1, 0, 1\}$ B. $\{-2, -1, 0\}$ C. $\{-1, 0, 1\}$ D. $\{-1, 0\}$
9. Which of the following **not** true?
A. $-8 > -100$ B. $0 > -99$ C. $-34.5 < -35.8$ D. $15.03 < 15.104$
10. When $1\frac{2}{5} \div \frac{14}{10}$ it gives _____.
A. 7 B. 14 C. 1 D. 2
11. A number is added to 9 and divided by 5 gives 3. What is a number?
A. 6 B. 7 C. 8 D. 5

12. If $x = 5$ and $y = 3$, then the value of the expression of $\frac{5x-2y}{x+y}$.

- A. $\frac{31}{8}$ B. $\frac{28}{8}$ C. $\frac{19}{8}$ D. $\frac{5}{8}$

13. Which one of the following are **not** true properties of the sign of the product.

- A. The product of even number of negative factors is positive.
B. The product of odd number of negative factor is negative.
C. The product of even number of negative factors is negative.
D. The product of zero and any rational numbers is zero.

14. A farmer increases the yield on his farm by 15%, if his previous yield was 6500 tones, what is his present yield?

- A. 7475 tones B. 7150 tones C. 7100 tones D. 7400 tones

15. How long would it take birr 15000 loans to generate birr 3000 simple interest if it is charged at a rate of 10% per annum?

- A. 3 years B. 4 years C. 2 years D. 5 years

16. Which one of the following is the square of 0.01?

- A. 0.001 B. 0.0001 C. 0.00001 D. 0.01

17. What is the approximant value of $(9.9)^2$?

- A. 81 B. 121 C. 144 D. 100

18. If $(4.56)^2 = 20.79$, then $(0.456)^2$ is _____

- A. 0.2079 B. 207.9 C. 2079 D. 2.079

19. Which of the following is **not** a perfect square?

- A. 169 B. 125 C. 196 D. 121

20. If $\sqrt{98.01} = 9.90$, then the $\sqrt{9810}$ is equal to _____.

- A. 9900 B. 0.990 C. 99.0 D. 990

21. When $\sqrt{\frac{3}{2}} \sqrt{\frac{72}{12}}$ is simplified it is equal to _____.

- A. 4 B. 3 C. 8 D. 16

22. Which one of the following is **not** a perfect cube number?
 A. 512 B. 125 C. 252 D. 343
23. Which one of the following is the cube root of 0.008?
 A. 0.0002 B. 0.002 C. 0.02 D. 0.2
24. Which one of the following is equal to the cube of $\frac{3}{5}$?
 A. $\frac{27}{125}$ B. $\frac{9}{25}$ C. $\frac{9}{15}$ D. $\frac{6}{10}$
25. Which one of the following is true about $a=b^3$?
 A. b is the cube of a C. a is the cube root of b
 B. b is the cube root of a D. All
26. Which one of the following is **not** true?
 A. $\sqrt[3]{\frac{27}{64}} = \frac{3}{4}$ B. $\sqrt[3]{\frac{8}{64}} = \frac{1}{2}$ C. $\sqrt[3]{125} = 5$ D. $\sqrt[3]{64} = -4$
27. What is the value of x in equation $\sqrt[3]{4x+3} = 3$?
 A. 9 B. 6 C. 27 D. 24
28. What is the length of the side of a square whose area is 441 cm^2 ?
 A. 21 cm B. 22 cm C. 20 cm D. 12 cm
29. If the volume of a cube is 216 cm^3 , then what is the length of the edge of a cube?
 A. 6cm B. 5cm C. 7cm D. 8 cm
30. If point P(x,y) is lies in IV quadrant, then which one of the following is true about the coordinates of x and y?
 A. $x>0$ and $y>0$ B. $x>0$ and $y<0$ C. $x<0$ and $y<0$ D. $x<0$ and $y>0$
31. Which of the following is **not** true the graph of the line $y = mx$, $m \in Q$.
 A. The line passes through the origin
 B. The lines touch quadrant I and II
 C. The line touch quadrant I and III, If $m>0$
 D. The line touch quadrant II and IV, If $m<0$
32. Which one of the following equation of line is a horizontal line equation?
 A. $Y = -3x+2$ B. $y=3x$ C. $2y+4=6$ D. $\frac{1}{2}x=4$
33. Which one of the following is **not** true about the equation of $Y=-2x-3$.
 A. The y-intercept is -3
 B. The graph is passes throth the origin
 C. The slope is -2
 D. The graph of line touch quadrant II and IV
34. If point P (3, 2) is lies in the equation of line $ax+2y=10$, then what is the value of a?
 A. 2 B. 3 C. $\frac{14}{3}$ D. $\frac{10}{7}$
35. Which one of the following equation is **not** equivalent to $10x-6=5x+4$.
 A. $5x=10$ B. $10x=20$ C. $8x-2=14$ D. $6x+2=12$
36. The solution set of the equation $3(2x+1)-2(x-2)=11$.
 A. {0} B. {3} C. {1} D. {2}
37. Which one of the following inequality is **not** equivalent to $6x+2<-10$.
 A. $6x<-8$ B. $6x<-12$ C. $5x<-10$ D. $4x<-8$

38. What is the solution set of the inequality $\frac{x+2}{2} > \frac{2x}{3}$ in the set of natural numbers?

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

C. $\{0,1,2,3,4,5\}$

B. $\{1,2,3,4,5,6\}$

D. $\{0,1,2,3,4,5,6\}$

39. A man is 28 years older than his son. Ten years ago he was three times as old as his son. What is the present age of a man?

A. 14

B. 30

C. 24

D. 52

40. Three-fourth of a number is greater than 12 the mathematical expression of this sentence is_____.

A. $\frac{4}{3} > 12a$

B. $\frac{3}{4}a > 12$

C. $\frac{3}{4} > 12a$

D. $\frac{4}{3}a > 12$