

MAGIC CARPET SCHOOL 2016E.C/2023/24 G.C MATHEMATICS MODEL EXAM FOR
GRADE8.

- _____ 1. Which of the following statement is true about the set of numbers N, W, Z and Q ?
- A. $W \subseteq Z^+$ B. $Z^+ \subseteq N$ C. $Q^+ \subseteq W$ D. $Z \subseteq Q^+$
- _____ 2. Which one of the following is not correct?
- A. Every negative rational number is less than zero
B. Zero is less than every positive rational number.
C. Any positive rational number is greater than negative rational number.
D. Zero is greater than positive rational number.
- _____ 3. Which of the following set of numbers is applicable for division in the set of rational number?
- A. The set of natural number. B. The set of whole number.
C. The set of positive rational number. D. The set of rational number.
- _____ 4. Evaluate $|-8+6| - |12-6| + |-12+6|$
- A. -2 B. -1 C. 1 D. 2
- _____ 5. Which of the following statement is true?
- A. $|0.2| = |-1.2|$ C. $|-3| - |-2| = -5$
B. $|6-10| < |-3-1|$ D. $|-5-1| > |-8+5|$
- _____ 6. Which one is the solution set of $|\frac{-3}{4}x| = 3$?
- A. $\{-3, \frac{3}{4}\}$ B. $\{-3, 3\}$ C. $\{\frac{-3}{4}, \frac{3}{4}\}$ D. $\{-4, 4\}$
- _____ 7. If $7 + 2|x + 5| = 11$ then, what is the values of x ?
- A. -7 and -3 B. -9 and -1 C. -6 and -4 D. -8 and -2
- _____ 8. Which of the following sets of rational numbers are written in ascending order?
- A. $\frac{6}{5}, \frac{5}{4}, \frac{4}{3}$ B. $\frac{4}{3}, \frac{5}{4}, \frac{6}{5}$ C. $\frac{-6}{5}, \frac{-5}{4}, \frac{-4}{3}$ D. $\frac{5}{6}, \frac{4}{5}, \frac{3}{4}$
- _____ 9. For any two rational numbers $\frac{a}{b} < \frac{c}{d}$ a, b, c and $d \neq 0$ then which one of the

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following is true?

- A. $ab < cd$ B. $ad > bc$ C. $-ad > -bc$ D. $ac < bd$

_____ 10. Which of the following number is between $\frac{4}{5} \wedge 5$?

- A. $\frac{49}{60}$ B. $\frac{49}{90}$ C. $\frac{7}{11}$ D. $\frac{10}{12}$

_____ 11. If $\frac{a}{b} \wedge \frac{c}{d}$ are two distinct rational numbers and $\frac{a}{b} + \frac{c}{d} = \frac{a+c}{d}$ then which of the following is true?

- A. $d=0$ B. $d=1$ C. $b=d$ D. $d=ac$

_____ 12. The simplified form of $\frac{\frac{1}{2} + \frac{2}{3}}{\frac{3}{4} - \frac{4}{3}} + \frac{3 + \frac{1}{3}}{\frac{3}{2} - \frac{2}{3}}$ is;

- A. -2 B. -1 C. 0 D. 2

_____ 13. The value of $\frac{6x+3y}{x^2-y^2}$ when evaluated at $x=2$ and $y=-1$ is

- A. $\frac{9}{5}$ B. $\frac{2}{5}$ C. $\frac{3}{5}$ D. 3

_____ 14. If Birr 1500 invested at 6% simple interest per annum for 3 years. Find the amount after 3 years

- A. Birr 270 B. Birr 1770 C. Birr 1500 D. Birr 1000

_____ 15. How long will it take for Birr 1200 to get Birr 360 simple interest at rate of 6% per annum.

- A. 4 years B. 3 years C. 5 years D. 6 years

_____ 16. The sum of the ages of a man and his wife is 96 years .The man is 12 years older than his wife. Find the present age of the man.

- A. 96 B. 42 C. 108 D. 54

_____ 17. Which of the following number is both perfect square and perfect cube?

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- A. 343 B. 729 C. 144 D. 225

_____ 18. Which one of the following is false?

- A. $(-60)^2 = 3600$ B. $-50^2 = -2500$
C. $-\sqrt{\frac{25}{49}} = \frac{-5}{9}$ D. $\sqrt{64} = 8^2$

_____ 19. Which one of the following numbers is not cubic number?

- A. 125 B. 252 C. 343 D. 512

_____ 20. What is the cube root of the number 0.000216?

- A. 0.006 B. 0.16 C. 0.06 D. 0.016

_____ 21. The simplified form of the expression $\sqrt{\frac{1}{7}} \times \sqrt{63} \times \sqrt{\frac{1}{4}}$

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

_____ 22. If $(1.93)^2 = 3.803$, then find $\sqrt{0.03803}$

- A. 1.95 B. 0.195 C. 19.5 D. 0.0195

_____ 23. Which one of the following is the simplified form of the expression

$$3\sqrt{108} + 4\sqrt{75}$$

- A. $2\sqrt{3}$ B. $-2\sqrt{3}$ C. $-38\sqrt{3}$ D. $38\sqrt{3}$

_____ 24. If $\sqrt[3]{9.415} = 2.112$ then $\sqrt[3]{9415}$ is equal to;

- A. 2112 B. 0.2112 C. 21.12 D. 2.112

_____ 25. The solution set of the equation for $\sqrt{2x-2} = 4$ is ;

- A. { 33 } B. { 9 } C. { -9 } D. { -33 }

_____ 26. If $a=6$ and $b=7$ then what is the value of $\frac{-a - \frac{a}{b}}{a + \frac{a}{b}}$?

- A. -1 B. 1 C. $\frac{4}{3}$ D. $\frac{3}{4}$

_____ 27. The rational number x is called a perfect cube if and only if for some $n \in \mathbb{Q}$,
x

is equal to:

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- A. n^2 B. $\sqrt[3]{n}$ C. n^3 D. $\sqrt{n}$

_____ 28. If the volume of a cube is 729 cm^3 , then find the side of the cube.

- A. 81cm B. 9cm C. 27cm D. 17cm

_____ 29. The simplified form of the expression $3\sqrt{98}-4\sqrt{72}+\sqrt{32}$.

- A. $4\sqrt{2}$ B. $41\sqrt{2}$ C. $49\sqrt{2}$ D. $\sqrt{2}$

_____ 30. Find the side length of a square if the area of the square is $1\frac{9}{16}$?

- A. $1\frac{1}{4}$ B. $1\frac{3}{4}$ C. $1\frac{1}{5}$ D. $1\frac{1}{3}$

_____ 31. Which one of the following numbers is cannot be unit digits of a perfect square?

- A. 1 B. 4 C. 8 D. 9

_____ 32. In the xy coordinate plane, which of the following point in the third quadrant?

- A. (-5 , -2) B. (4 , 3) C. (2 , -5) D. (-4 , 7)

_____ 33. Which the following equation represents a vertical line?

- A. $2x - 5 = 7$ B. $y = -4x$ C. $4y + 3 = 11$ D. $4x + 10y = 20$

_____ 34. In the xy coordinate plane, which of the following is a point in the 3rd quadrant?

- A. (-5 , -2) B. (4 , -3) C. (2 , 5) D. (0 , 0)

_____ 35. Which of the following equation is parallel to x axis?

- A. $y = -5$ B. $y = 2x + 2$ C. $x = 15$ D. $y - x = 0$

_____ 36. In the Cartesian coordinate plane the point ($x < 0$, $Y > 0$) located in the quadrant.

- A. First B. Fourth C. Third D. Second

_____ 37. Which one of the following equation passes through the origin?

- A. $y = 4$ B. $x + 5 = 4$ C. $y = 2x$ D. $y = x + 2$

_____ 38. When of the following is equal to $(3\frac{3}{4} \times \frac{8}{5}) \div (\frac{-6}{5})$

- A. 5 B. -6 C. 4 D. -2

_____ 39. Which one of the following is not linear equation?

A. $3x^2 + 1 - x = 0$

C. $4x - 12 = 20$

B. $2x (2 + x) = 2x(x +)$

D. $2x - 12 = 12x + 32$

_____ 40. The solution set of the equation $-3 (x - 5) = 15 - 3x$.

A. $\{ \}$

B. $\{ Q \}$

C. $\{ 0 \}$

D. $\{ 15 \}$