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Mathematics, 2016 EC, Grade 8 model exam, Addis Ababa, Arada

Grade 8 · Mathematics · 2016 E.C.

Time allowed: 120 minutes **Questions:** 28 **Total marks:** 28

Name _____ Grade _____ ID No. _____ Date _____

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1. Which one of the following is not true regarding the set of numbers? (1)

A. $1 \in \mathbb{N}$ **B.** $0 \in \mathbb{W}$

C. $\frac{1}{2} \in \mathbb{Q}$ **D.** $0.5 \in \mathbb{Z}$

2. If $a = -4, b = 3$, and $c = -2$, then which one of the following is the value of $3a - 2b + 3c$? (1)

A. 12 **B.** -12

C. 0 **D.** -24

3. Which one of the following is the correct increasing order of the following decimals: $6.606, 0.6, 0.66$, and 6.06? (1)

A. $0.6, 0.66, 6.06, 6.606$ **B.** $0.6, 0.66, 6.606, 6.06$

C. $0.66, 0.6, 6.06, 6.606$ **D.** $0.66, 0.6, 6.606, 6.06$

4. Which one of the following is the list of the elements of the set $\{x : -2 \leq x \leq 1, x \in \mathbb{Z}\}$ on the number line? (1)

A. $\{-2, -1, 0, 1\}$ **B.** $\{-2, -1, 0\}$

C. $\{-1, 0, 1\}$ **D.** $\{-1, 0\}$

5. Which one of the following is not true? (1)

A. $-8 > -100$ **B.** $0 > -99$

C. $-34.5 < -35.8$ **D.** $15.03 < 15.104$

6. A number is added to 9 and divided by 5 gives 3. What is the number? (1)

A. 6 **B.** 7

C. 8 **D.** 5

7. If $x = 5$ and $y = 3$, then the value of the expression $\frac{5x-2y}{x+y}$ is _____. (1)

A. $\frac{21}{8}$ **B.** $\frac{29}{8}$

C. $\frac{19}{8}$ **D.** $\frac{5}{8}$

8. Which one of the following are not true properties of the sign of the product? (1)

A. The product of an even number of negative factors is positive.

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

C. The product of an even number of negative factors is negative.

D. The product of zero and any rational numbers is zero.

9. A farmer increases the yield on his farm by 15%. If his previous yield was 6500 tons, what is his present yield? (1)

A. 7475 tons
B. 7150 tons
C. 7100 tons
D. 7400 tons

10. 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? (1)

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

11. Which one of the following is the square of 0.01? (1)

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

12. What is the approximate value of $(9.9)^2$? (1)

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

13. If $(4.56)^2 = 20.79$, then $(0.456)^2$ is _____. (1)

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

14. Which one of the following is not a perfect square? (1)

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

15. Which one of the following is not a perfect cube number? (1)

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

16. Which one of the following is the cube root of 0.008? (1)

A. 0.002
B. 0.02
C. 0.2
D. 2

17. Which one of the following is equal to the cube of $\frac{3}{5}$? (1)

A. $\frac{27}{125}$
B. $\frac{9}{25}$
C. $\frac{9}{15}$
D. $\frac{6}{10}$

18. Which one of the following is true about $a = b^3$? (1)

A. b is the cube of a
B. a is the cube root of b
C. Both are correct
D. None are correct

19. What is the value of x in the equation $\sqrt[3]{4x+3} = 3$? (1)

A. 9
B. 6
C. 27
D. 24

20. What is the length of the side of a square whose area is $441\ \text{cm}^2$? (1)

A. $21\ \text{cm}$ **B.** $22\ \text{cm}$

C. $20\ \text{cm}$ **D.** $12\ \text{cm}$

21. If the volume of a cube is $216\ \text{cm}^3$, then what is the length of the edge of the cube? (1)

A. $6\ \text{cm}$ **B.** $5\ \text{cm}$

C. $7\ \text{cm}$ **D.** $8\ \text{cm}$

22. If point $P(x, y)$ lies in the IV quadrant, then which one of the following is true about the coordinates of x and y ? (1)

A. $x > 0$ and $y < 0$ **B.** $x > 0$ and $y > 0$

C. $x < 0$ and $y < 0$ **D.** $x < 0$ and $y > 0$

23. Which one of the following equations represents a horizontal line? (1)

A. $y = -3x + 2$ **B.** $y = 3x$

C. $2y + 4 = 6$ **D.** $\frac{1}{2}x = 4$

24. Which one of the following is not true about the equation $y = -2x - 3$? (1)

A. The y-intercept is -3. **B.** The graph passes through the origin.

C. The slope is -2. **D.** The graph touches quadrants II and IV.

25. If point $P(3, 2)$ lies on the line $ax + 2y = 10$, then what is the value of a? (1)

A. 2 **B.** 3

C. $\frac{4}{3}$ **D.** $\frac{10}{7}$

26. Which one of the following is not equivalent to $10x - 6 = 5x + 4$? (1)

A. $5x = 10$ **B.** $10x = 20$

C. $8x - 2 = 14$ **D.** $6x + 2 = 12$

27. 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 the man? (1)

A. 14 **B.** 30

C. 24 **D.** 52

28. Three-fourths of a number is greater than 12. The mathematical expression for this sentence is: (1)

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

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

END OF THE EXAMINATION

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