

Mathematics, 2017 EC, Grade 8 model exam, Lideta

Grade 8 · Mathematics · 2017 E.C.

Time allowed: 120 minutes

Questions: 41

Total marks: 41

Name _____ Grade _____ ID No. _____ Date _____

1. What is the number of elements of set $A = \{4, 5, 4, 7, 4\}$? (1)

A. 3

B. 4

C. 5

D. 6
2. Which of the following statement is True about relations among sets? (1)

A. All equal sets are proper subsets of each other

B. Empty set is a subset of any set

C. All equivalent sets are equal

D. Any set is a proper subset of itself
3. If $A \subset B$, then which of the following statement is true? (1)

A. $A \cap B = A$

B. $A \cup B = A$

C. $B \subseteq A$

D. $B \subset A$
4. A set of numbers containing all counting numbers and zero is called: (1)

A. Natural number

B. Whole number

C. Integer number

D. Rational number
5. Which one of the following is the set of whole numbers? (1)

A. $\{0, 2, 4, 6, \dots\}$

B. $\{1, 2, 3, \dots\}$

C. $\{0, 1, 2, 3, \dots\}$

D. $\{\dots, -3, -2, -1, 0, 1, 2, 3, \dots\}$
6. The opposite of integer number a is equal to: (1)

A. $-a$

B. a

C. $1/a$

D. a^2
7. Which of the following is the number of elements in the set $A = \{1, 2, 3, 4, 5\}$? (1)

A. 5

B. 4

C. 3

D. 2
8. Which of the following is the set of prime numbers less than 10? (1)

A. $\{2, 3, 5, 7\}$

B. $\{2, 3, 5, 7, 9\}$

C. $\{1, 2, 3, 5, 7\}$

D. $\{2, 4, 6, 8\}$
9. Which of the following is the set of multiples of 3 less than 15? (1)

A. $\{3, 6, 9, 12\}$

B. $\{3, 6, 9, 12, 15\}$

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

D. $\{2, 4, 6, 8, 10\}$

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10. Which of the following is the set of numbers divisible by 4 less than 20? (1)
- A. {4, 8, 12, 16} B. {4, 8, 12, 16, 20}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
-
11. Which of the following is the set of perfect squares less than 20? (1)
- A. {1, 4, 9, 16} B. {1, 4, 9, 16, 20}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
-
12. Which of the following is the set of prime numbers between 10 and 20? (1)
- A. {11, 13, 17, 19} B. {11, 13, 17, 19, 20}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
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13. Which of the following is the set of multiples of 5 less than 20? (1)
- A. {5, 10, 15} B. {5, 10, 15, 20}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
-
14. Which of the following is the set of numbers divisible by 6 less than 20? (1)
- A. {6, 12, 18} B. {6, 12, 18, 20}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
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15. Which of the following is the set of prime numbers between 20 and 30? (1)
- A. {23, 29} B. {23, 29, 30}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
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16. Which of the following is the set of multiples of 7 less than 30? (1)
- A. {7, 14, 21, 28} B. {7, 14, 21, 28, 30}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
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17. Which of the following is the set of numbers divisible by 8 less than 30? (1)
- A. {8, 16, 24} B. {8, 16, 24, 30}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
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18. Which of the following is the set of perfect squares less than 30? (1)
- A. {1, 4, 9, 16, 25} B. {1, 4, 9, 16, 25, 30}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
-
19. Which of the following is the set of prime numbers between 30 and 40? (1)
- A. {31, 37} B. {31, 37, 40}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
-
20. Which of the following is the set of multiples of 9 less than 40? (1)
- A. {9, 18, 27, 36} B. {9, 18, 27, 36, 40}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}
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21. Which of the following is the set of perfect cubes less than 40? (1)
- A. {1, 8, 27} B. {1, 8, 27, 64}
C. {1, 2, 3, 4, 5} D. {2, 4, 6, 8, 10}

22. What is the value of m if a point $(2, -6)$ lies on the line $y = mx + 2$? (1)
- A. -2 B. -4
C. 3 D. -8
-
23. On a number line, when we add a negative integer, we: (1)
- A. Move to the right B. Do not move at all
C. Move to the left D. None
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24. The solution set of $|x - 6| = 10$ is: (1)
- A. $\{4, -16\}$ B. $\{-6, 10\}$
C. $\{-4, 16\}$ D. $\{10, -6\}$
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25. Which one of the following is the equivalent fraction of $\frac{12}{20}$? (1)
- A. $\frac{3}{5}$ B. $\frac{3}{4}$
C. $\frac{4}{5}$ D. $\frac{4}{3}$
-
26. Which one of the following numbers are in descending order? (1)
- A. $\frac{7}{12}, \frac{2}{3}, \frac{3}{2}$ B. $\frac{3}{2}, \frac{7}{12}, \frac{2}{3}$
C. $\frac{3}{2}, \frac{2}{3}, \frac{7}{12}$ D. $\frac{2}{3}, \frac{3}{2}, \frac{7}{12}$
-
27. The sum of $\frac{1}{3} + \frac{2}{3}$ is equal to: (1)
- A. $\frac{3}{6}$ B. 6
C. $\frac{1}{3}$ D. 1
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28. $\frac{7}{9} - \frac{4}{3} =$ (1)
- A. $\frac{-9}{5}$ B. $\frac{-5}{9}$
C. $\frac{3}{6}$ D. $\frac{5}{9}$
-
29. The product of $\$2 \frac{5}{7} \times \left(-\frac{3}{2}\right) = \$$ (1)
- A. $\frac{-57}{14}$ B. $\frac{-15}{7}$
C. $\frac{10}{9}$ D. $\frac{10}{3}$
-
30. If Birr 1200 is invested at 10% simple interest per annum, then what is the simple interest after 5 years? (1)
- A. 800 Birr B. 500 Birr
C. 700 Birr D. 600 Birr
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31. If $X = \frac{-2}{3}$, then $X^2 =$ (1)
- A. $\frac{-4}{6}$ B. $\frac{4}{6}$
C. $\frac{4}{9}$ D. $\frac{-4}{9}$
-
32. $\sqrt{\frac{25}{9}} =$ (1)
- A. $\frac{5}{3}$ B. $\frac{14}{9}$
C. $\frac{3}{5}$ D. $\frac{7}{10}$

33. Which one of the following numbers is both a perfect square and a perfect cube? (1)
- A. 81
B. 64
C. 100
D. 36
-
34. $\sqrt[3]{0.001}$ is equal to: (1)
- A. 0.01
B. 0.1
C. 0.001
D. 0.0001
-
35. The area of a square park is $81m^2$. Its length of side is equal to: (1)
- A. 27 m
B. 6 m
C. 9 m
D. 3 m
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36. The cube of 0.4 is equal to: (1)
- A. 0.16
B. 0.064
C. $\frac{64}{100}$
D. $\frac{16}{100}$
-
37. Which of the following points does not satisfy the equation $y = 4x$? (1)
- A. (0, 0)
B. (2, 8)
C. (-1, 4)
D. (3, 12)
-
38. If the point $P(a, 3)$ lies on the line given by the equation $12x - 2y = 0$, then what is the value of a ? (1)
- A. $\frac{1}{2}$
B. $\frac{4}{3}$
C. $\frac{3}{4}$
D. -3
-
39. What is the solution set of the inequality $\frac{x+1}{3} > \frac{2x}{5}$ in the set of natural numbers? (1)
- A. {1, 2}
B. {1, 2, 3}
C. {1, 2, 3, 4, 5}
D. {1, 2, 3, 4}
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40. The solution set of $2x - 5 < x + 1, x \in \mathbb{Q}$ is: (1)
- A. $\{x : x < -4\}$
B. $\{x : x > 6\}$
C. $\{x : x > -4\}$
D. $\{x : x < 6\}$
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41. The sum of the age of the mother and her daughter is 68 years. The mother is 22 years older than her daughter. (1)
How old is her mother?
- A. 45 years
B. 46 years
C. 23 years
D. 50 years

— END OF EXAMINATION —