

Mathematics, 2015 EC, Grade 6 model exam, Yeka

Grade 6 · Mathematics · 2015 E.C.

MARKING KEY — CONFIDENTIAL

Time allowed: 120 minutes

Questions: 9

Total marks: 9

1. 150 ----- (1)
- A. $2^3 \times 3 \times 5$ B. $2^4 \times 4 \times 3$
- C. $\checkmark 2 \times 3 \times 5^2$ D. $2^3 \times 3 \times 5^2$

Answer: CThe prime factorization of 150 is $2 \times 3 \times 5^2$ because $2 \times 3 \times 25 = 150$, where 2, 3, and 5 are prime numbers.

2. 56 120 ----- (1)
- A. 5 B. 12
- C. $\checkmark 8$ D. 9

Answer: CThe Greatest Common Divisor (GCD) of 56 and 120 is 8, since $56 = 2^3 \times 7$ and $120 = 2^3 \times 3 \times 5$, making $2^3 = 8$ their highest common factor.

3. $2^3 \times 5$ (1)
- A. 8 B. $\checkmark 40$
- C. 32 D. 42

Answer: BEvaluating the mathematical expression $2^3 \times 5$ yields $8 \times 5 = 40$.

4. 72 120 ----- (1)
- A. 18 2 B. 16 36
- C. 18 20 D. $\checkmark 24\ 360$

Answer: D

This question asks for the Greatest Common Divisor (GCD) and Least Common Multiple (LCM) of 72 and 120, which are 24 and 360, respectively.

5. 842.531 (1)
- A. $8 \times 100 + 4 \times 10 + 2 \times 1 + 5 \times 100 + 3 \times 10 + 1 \times 1$ B. $8 \times 100 + 4 \times 10 + 2 \times 1 + 5 \times \frac{1}{100} + 3 \times \frac{1}{10} 1\frac{1}{1}$
- C. $8 \times 100 + 4 \times 10 + 2 \times 1 + 5 \times \frac{1}{10} + 3 \times \frac{1}{100} + 1 \times \frac{1}{1000}$ D. $8 \times 100 + 4 \times 10 + 2 \times 1 + 5 \times \frac{1}{1000} + 3 \times \frac{1}{100} + 1 \times \frac{1}{10}$

Answer: CThe place value expansion of the decimal 842.531 is $8 \times 100 + 4 \times 10 + 2 \times 1 + 5 \times \frac{1}{10} + 3 \times \frac{1}{100} + 1 \times \frac{1}{1000}$, which corresponds to option C.

6. 0.563% -----

(1)

A. $\frac{563}{1000}$

B. $\frac{563}{100}$

C. ✓ $\frac{563}{100000}$

D. $\frac{563}{10000}$

Answer: C

To convert a percentage to a fraction, divide by 100: $0.563\% = \frac{0.563}{100} = \frac{563}{100,000}$, which is option C.

7. $\frac{3}{5}$ $\frac{1}{4}$ 0.7 $3\frac{1}{5}$

(1)

A. 0.7 $\frac{1}{4}$ $\frac{3}{5}$ $3\frac{1}{5}$

B. 0.7 $\frac{3}{5}$ $\frac{1}{4}$ $3\frac{1}{5}$

C. $3\frac{1}{5}$, 0.7 $\frac{3}{5}$ 0.6

D. ✓ $\frac{1}{4}$ $\frac{3}{5}$ 0.7 $3\frac{1}{5}$

Answer: D

Converting each number to a decimal yields $\frac{1}{4} = 0.25$, $\frac{3}{5} = 0.6$, $0.7 = 0.7$, and $3\frac{1}{5} = 3.2$. Ordering them from least to greatest gives the sequence in option D.

8. $\frac{72}{48}$ ----

(1)

A. $\frac{19}{6}$

B. ✓ $\frac{3}{2}$

C. $\frac{2}{3}$

D. $\frac{4}{3}$

Answer: B

Simplifying the fraction $\frac{72}{48}$ by dividing both the numerator and the denominator by their greatest common divisor, 24, yields $\frac{3}{2}$.

9. 4.23

(1)

A. $\frac{42.3}{100}$

B. ✓ $\frac{423}{100}$

C. $\frac{423}{1000}$

D. $\frac{42.3}{1000}$

Answer: B

The decimal 4.23 can be written as a fraction by placing the digits over 10^2 (since there are two decimal places), resulting in $\frac{423}{100}$.

— END OF MARKING KEY —

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