GRE Arithmetic Practice Paper 4

Question 1

$$3x - 10 = y$$

$$3y - 10 = x$$

Quantity A	**Quantity B**
x	y

A. Quantity A is greater.
B. Quantity B is greater.
C. The two quantities are equal.
D. The relationship cannot be determined from the information given.

Question 2

Quantity A	**Quantity B**
The square root of 30	The greatest prime factor of 30

A. Quantity A is greater.
B. Quantity B is greater.
C. The two quantities are equal.
D. The relationship cannot be determined from the information given.

Question 3

Find the 100th term in this sequence: 2, 5, 8, 11, 14, …

Question 4

The fifth term in a sequence of numbers is 19. Each term after the first term in the sequence is 3 less than the term immediately preceding it. What is the second term in the sequence?

(A) 10
(B) 13
(C) 28
(D) 30
(E) 31

Question 5

For any positive integer n, the sum of the first n positive integers equals (n(n + 1)) / 2. What is the sum of all the even integers between 49 and 101?

A. 1875

B. 1950

C. 2550

D. 4950

E. 5000

Question 6

For any positive integer n, the sum of the first n positive integers equals (n(n + 1)) / 2. What is the sum of all the even integers between 49 and 101?

A. 1875

B. 1950

C. 2550

D. 4950

E. 5000

Question 7

Which of the following shows the numbers $2^{1/2}$, $3^{1/3}$, and $6^{1/6}$ in increasing order?

(A) $2^{1/2} < 3^{1/3} < 6^{1/6}$

(B) $6^{1/6} < 3^{1/3} < 2^{1/2}$

(C) $6^{1/6} < 2^{1/2} < 3^{1/3}$

(D) $3^{1/3} < 2^{1/2} < 6^{1/6}$

(E) $3^{1/3} < 6^{1/6} < 2^{1/2}$

Question 8

Which of the following shows the numbers $2^{1/2}$, $3^{1/3}$, and $6^{1/6}$ in increasing order?

(A) $2^{1/2} < 3^{1/3} < 6^{1/6}$

(B) $6^{1/6} < 3^{1/3} < 2^{1/2}$

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(D) $3^{1/3} < 2^{1/2} < 6^{1/6}$

(E) $3^{1/3} < 6^{1/6} < 2^{1/2}$

Question 9

Which of the following shows the numbers $2^{1/2}$, $3^{1/3}$, and $6^{1/6}$ in increasing order?

(A) $2^{1/2} < 3^{1/3} < 6^{1/6}$

(B) $6^{1/6} < 3^{1/3} < 2^{1/2}$

(C) $6^{1/6} < 2^{1/2} < 3^{1/3}$

(D) $3^{1/3} < 2^{1/2} < 6^{1/6}$

(E) $3^{1/3} < 6^{1/6} < 2^{1/2}$

Question 10

Which of the following shows the numbers $2^{1/2}$, $3^{1/3}$, and $6^{1/6}$ in increasing order?

(A) $2^{1/2} < 3^{1/3} < 6^{1/6}$

(B) $6^{1/6} < 3^{1/3} < 2^{1/2}$

(C) $6^{1/6} < 2^{1/2} < 3^{1/3}$

(D) $3^{1/3} < 2^{1/2} < 6^{1/6}$

(E) $3^{1/3} < 6^{1/6} < 2^{1/2}$

Question 11

A ladder 9 meters in length is leaning against a vertical wall on level ground. As the bottom end of the ladder is moved away from the wall at a constant rate of 2 meters per second, the top end slides downward along the wall. How fast, in meters per second, will the top end of the ladder be sliding downward at the moment the top end is 3 meters above the ground?

(A) $12\sqrt{2}$ (B) $6\sqrt{2}$ (C) $4\sqrt{2}$ (D) $\frac{1}{2\sqrt{2}}$ (E) $\frac{2}{3}$

Question 12

If a real number x is chosen at random in the interval $[0, 3]$ and a real number y is chosen at random in the interval $[0, 4]$, what is the probability that $x < y$?

(A) $\frac{1}{2}$ (B) $\frac{7}{12}$ (C) $\frac{5}{8}$ (D) $\frac{2}{3}$ (E) $\frac{3}{4}$

Question 13

If 10 is 2% of z, what is 50% of z ?

1. 0.1
2. 5
3. 250
4. 500
5. 1000

Question 14

1. If 9 is x percent of 45, what is x percent of 50?
    1. 2

2. 5
3. 10
4. 15
5. 20

Question 15

1. If s > 0 and s percent of 10 is equal to 40% of t, what is the value of st ?
    1. 1
    2. 4
    3. 10
    4. 40
    5. 100

Question 16

If a is the greatest common divisor of 64 and 14 and b is the least common multiple of 16 and 52 then a + b = ?

Possible Answers:

210
187
120
233

Question 17

What is the least common multiple of 3, 4x, 5y, 6xy, and 10y?

Possible Answers:

30xy
60xy
$30x^2y^2$
25xy
$60x^2y^2$

Question 18

What is the least common multiple of 45 and 60?

Possible Answers:

25
360
180
225
15

Question 19

One pen costs $0.25 and one marker costs $0.35. At those prices, what is the total cost of 18 pens and 100 markers?

Question 20

A merchant made a profit of $5 on the sale of a sweater that cost the merchant $15. What is the profit expressed as a percent of the merchant's cost?