

Orientation Exercises 3

1. $4^3 - 3^2 + 8^0 = ?$
 A. 11
 B. 14 64 - 9 + 1
 C. 47
 D. 53
 E. 56

2. What is the sum of all the ODD integers from 11 to 21, inclusive?
 A. 64
 B. 80
 C. 85
 D. 96
 E. 100

3. Which of the following can be expressed as the product of two consecutive ODD integers?
 A. 9 = 1, 3, 9
 B. 21 = 1, 3, 7, 21
 C. 27 = 1, 3, 9, 27
 D. 63 = 1, 3, 7, 9, 21, 63
 E. 77 =

4. What are the positive factors of 64?
 A. {1, 64}
 B. {1, 2, 32, 64}
 C. {1, 2, 4, 8, 16, 32, 64}
 D. {1, 2, 4, 6, 8, 12, 16, 32, 64}
 E. All of the above

5. What is the prime factorization of 72?
 A. $1 \cdot 72$
 B. $2 \cdot 4 \cdot 9$
 C. $2 \cdot 3^3 \cdot 4$
 D. $2 \cdot 3^2 \cdot 3$
 E. $2^3 \cdot 3^2$
 $72 = 6 \cdot 12$
 $72 = 2 \cdot 3 \cdot 2 \cdot 2 \cdot 3$
 $= 2^3 \cdot 3^2$

6. Evaluate $6!$ 6 · 5 · 4 · 3 · 2 · 1
 A. 0
 B. 1
 C. 6
 D. 36
 E. 720

7. How many prime numbers are there between 20 and 30?
 A. 1
 B. 2 23, 29
 C. 3
 D. 4
 E. 5

8. Which one of the following is an irrational number?
 A. 3.14
 B. $|-3 + 2|$
 C. 0
 D. $\sqrt{121}$
 E. $\sqrt{10}$

9. Simplify: $\sqrt{\frac{75}{12}} = \frac{\sqrt{25 \cdot 3}}{\sqrt{4 \cdot 3}} = \frac{5\sqrt{3}}{2\sqrt{3}}$
 A. $\frac{25}{4}$
 B. $\frac{5}{2}$
 C. $\frac{2}{5}$
 D. $\frac{5}{4}$
 E. $\frac{3}{5}$

10. The units digit of 5^{27} is:
 A. 2
 B. 7
 C. 1
 D. 5
 E. cannot be determined
 $5^0 = 5$
 $5^1 = 5$
 $5^2 = 25$
 $5^3 = 125$