

Advanced Mathematical Operations

Mathematics · Practice Test · 12 Questions

1. What is the result of multiplying the constant Pi (rounded to 3.14) by the square root of 64?

- A) 25.12
- B) 28.26
- C) 21.98
- D) 24.88

2. If a population grows at a rate of 1.05 per year, what multiplier represents the total growth factor over exactly 3 years?

- A) 1.15
- B) 1.157625
- C) 1.1525
- D) 1.16

3. Which mathematical property states that $a(b + c) = ab + ac$?

- A) Associative property
- B) Commutative property
- C) Distributive property
- D) Identity property

4. In base-16 (hexadecimal), what is the decimal equivalent of the product of 4 and A?

- A) 40
- B) 44
- C) 36
- D) 64

5. If a light-year is approximately 9.46 trillion kilometres, how many kilometres are travelled in 0.5 light-years?

- A) 4.23 trillion km
- B) 4.73 trillion km
- C) 4.82 trillion km
- D) 5.12 trillion km

6. Dividing a number by 0.001 is equivalent to multiplying that number by which value?

- A) 10
- B) 100
- C) 1000
- D) 0.01

7. What is the product of $(x + 3)(x - 3)$?

- A) $x^2 + 6x - 9$
- B) $x^2 - 9$
- C) $x^2 + 9$
- D) $x^2 - 6x + 9$

8. How many seconds are in a day, calculated by multiplying 60 seconds by 60 minutes by 24 hours?

- A) 84,600
- B) 86,400
- C) 88,200
- D) 82,400

9. What is the quotient when 2^{10} is divided by 2^7 ?

- A) 2^3
- B) 2^{17}
- C) $2^{1.42}$
- D) 2^4

10. If sound travels at 343 metres per second, how far does it travel in 12 seconds?

- A) 4,116 metres
- B) 4,016 metres
- C) 3,816 metres
- D) 4,216 metres

11. What is the multiplicative inverse of 0.25?

- A) -0.25
- B) 4
- C) 2.5
- D) 0.75

12. By what factor must you multiply a 100cm length to convert it into 1 metre?

- A) 10
- B) 0.1
- C) 0.01
- D) 0.001