

High School Mathematics Principles

Basic Math · Practice Test · 6 Questions

1. According to the change of base formula, which expression is equivalent to log base 'b' of 'x'?

- A) $\log(x) / \log(b)$
- B) $\log(b) / \log(x)$
- C) $\log(x) * \log(b)$
- D) $\log(x - b)$

2. In trigonometry, what is the value of $\sin^2(?) + \cos^2(?)$ for any real angle ??

- A) 0
- B) 1
- C) ?
- D) -1

3. What is the value of the imaginary unit 'i' raised to the power of 102?

- A) i
- B) -i
- C) 1
- D) -1

4. Which formula identifies the sum of the interior angles of a convex polygon with 'n' sides?

- A) $(n - 1) \times 180^\circ$
- B) $(n - 2) \times 180^\circ$
- C) $(n + 2) \times 180^\circ$
- D) $n \times 180^\circ$

5. If the discriminant ($b^2 - 4ac$) of a quadratic equation is exactly zero, what is the nature of the roots?

- A) Two distinct real roots
- B) Two complex conjugate roots
- C) One repeated real root
- D) No real or complex roots

6. What is the sum of an infinite geometric series with first term 'a' and common ratio 'r', where $|r| < 1$?

- A) a / r
- B) $a(1 - r)$
- C) $a / (1 - r)$
- D) $ar / (1 - a)$