1. Why is 1 not a prime number?

   ☐ It is not an integer

   ☐ It is irrational

   ☐ It is too small

   ☐ It has only one factor, and a prime has exactly two

2. In the expression $5x^2 - 3x + 7$, what is 5 called?

   ☐ The coefficient of x^2

   ☐ The variable

   ☐ The constant

   ☐ The index

3. Find the gradient of the line through (2, 1) and (6, 9).

   _____

4. What do the interior angles of a hexagon add up to, in degrees?

   _____

5. You know the adjacent side and want the opposite side. Which ratio do you use?

   ☐ Tangent

   ☐ Cosine

   ☐ The cosine rule

   ☐ Sine

6. What is $\log_{10} 1000$?

   _____

7. Evaluate $5 + 3 \times 2^2 - 4$.

   _____

8. $(x + 1)^2 = x^2 + 2x + 1$ is an identity, not an equation to solve.

   ☐ True ☐ False

9. That line is $y = 2x + c$. Find c.

   _____

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☐ It doubles

☐ It multiplies by 8

☐ It stays the same

☐ It multiplies by 4

1. **It has only one factor, and a prime has exactly two**

   A prime is a positive integer greater than 1 with exactly two positive factors. The number 1 has only one positive factor.

2. **The coefficient of x^2**

   A coefficient multiplies a term with a letter in it. The constant here is 7, which has no letter.

3. **2**

   Rise over run: $(9 - 1) \div (6 - 2) = 8 \div 4 = 2$.

4. **720**

   $(n - 2) \times 180°$ with $n = 6$ gives $4 \times 180° = 720°$.

5. **Tangent**

   Tangent is opposite over adjacent – the only ratio that involves neither hypotenuse.

6. **3**

   It asks what power of 10 gives 1000, and $10^3 = 1000$.

7. **13**

   Indices first ($2^2 = 4$), then multiplication ($3 \times 4 = 12$), then left to right: $5 + 12 - 4 = 13$.

8. **True**

   It is true for every value of x, so there is nothing to solve – it is a fact about the algebra.

9. **-3**

   Substitute (2, 1): $1 = 4 + c$, so $c = -3$. Check with (6, 9): $2(6) - 3 = 9$ ✓.

10. **It multiplies by 8**

    Volume scales with the cube of the length ratio: $2^3 = 8$. Area scales with the square, 4.

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