Prime/composite/square numbers

6 questions | 10 marks

Equivalent correct methods earn the corresponding marks.

1. List all positive factors of 18. [2 marks]

Use pairs 1×18, 2×9 and 3×6.

Answer: 1, 2, 3, 6, 9, 18.

2. Classify 17 as prime or composite. [1 mark]

Its only positive factors are 1 and 17.

Answer: Prime.

3. Explain why 27 is composite. [2 marks]

The pair 3×9 supplies extra factors.

Answer: It has factors 3 and 9 as well as 1 and 27.

4. List the square numbers from 1 to 50. [2 marks]

Calculate 1×1 through 7×7; $8 \times 8 = 64$ exceeds 50.

Answer: 1, 4, 9, 16, 25, 36, 49.

5. A garden has 8 rows of 8 plants. How many plants? [1 mark]

$8 \times 8 = 64$.

Answer: 64 plants.

6. Sam says every square number is composite. Give a counterexample. [2 marks]

$1 = 1 \times 1$ and has only one positive factor.

Answer: 1 is square but is not composite.