Year 6 Number properties and calculations topic test

12 questions | 25 marks | 30 minutes

A hand-solvable review that progresses from familiar skills to explanation and practical problems.

Equivalent correct methods earn the corresponding marks.

1. List all factors of 16. [2 marks]

Use pairs 1×16, 2×8 and 4×4.

Answer: 1, 2, 4, 8, 16.

2. Is 23 prime or composite? [1 mark]

None of 2, 3 or 4 divides 23 exactly.

Answer: Prime.

3. Write the next two square numbers after 36. [2 marks]

$7 \times 7 = 49$ and $8 \times 8 = 64$.

Answer: 49 and 64.

4. Explain why 35 is composite. [2 marks]

Its factors include 1, 5, 7 and 35.

Answer: $35 = 5 \times 7$, giving more than two factors.

5. Write the first four positive multiples of 12. [2 marks]

Multiply 12 by 1 through 4.

Answer: 12, 24, 36, 48.

6. Find the greatest common factor of 24 and 36. [2 marks]

The common factors are 1, 2, 3, 4, 6 and 12.

Answer: 12.

7. Find the smallest positive common multiple of 6 and 8. [2 marks]

6,12,18,24 and 8,16,24 first meet at 24.

Answer: 24.

8. Calculate $699 + 458$ using compensation. [2 marks]

$700 + 458 - 1 = 1,157.$

Answer: 1,157.

9. Calculate 25×36 efficiently. [2 marks]

$25 \times 4 \times 9 = 100 \times 9 = 900.$

Answer: 900.

10. Estimate 79×21, then calculate exactly. [3 marks]

$80 \times 20 = 1,600.$

$79 \times 20 + 79 = 1,580 + 79 = 1,659.$

Answer: Estimate about 1,600; exact answer 1,659.

11. Pack 48 pencils and 60 erasers into the greatest possible number of identical bags, using all items. How many bags and what is in each? [3 marks]

The greatest common factor of 48 and 60 is 12.

$48 \div 12 = 4;\ 60 \div 12 = 5.$

Answer: 12 bags, each with 4 pencils and 5 erasers.

12. Is every prime number odd? Explain with an example. [2 marks]

Its only positive factors are 1 and 2.

Answer: No: 2 is even and prime.