Equivalent ratios and simplest form

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

1. Simplify $12 : 20$. [2 marks]

Divide both entries by 4.

Answer: $3 : 5$.

2. Simplify $42 : 18$. [2 marks]

Divide both entries by 6.

Answer: $7 : 3$.

3. Complete $3 : 7 = 12 : x$. [2 marks]

The first entry is multiplied by 4, so multiply 7 by 4.

Answer: $x = 28$.

4. Simplify $15 : 25 : 35$. [2 marks]

Divide all three entries by 5.

Answer: $3 : 5 : 7$.

5. Simplify 2 m:50 cm. [3 marks]

Convert 2 m to 200 cm.

Divide both entries of $200 : 50$ by 50.

Answer: $4 : 1$.

6. A student says $4 : 6$ and $7 : 9$ are equivalent because 3 was added to each entry. Explain the error. [3 marks]

$4 : 6$ simplifies to $2 : 3$.

To scale 4 to 7 requires multiplying by 7/4; that would change 6 to 10.5, not 9.

Answer: The same addition does not preserve a ratio.