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 $2\text{ m}:50\text{ cm}$. [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 $\frac{7}{4}$; that would change 6 to 10.5, not 9.

Answer: The same addition does not preserve a ratio.