Inverse fact families

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. Write the two division facts linked to $7 \times 9 = 63$. [1 mark]

Start with sixty-three and divide by each factor.

Answer: $63 \div 7 = 9$ and $63 \div 9 = 7$.

2. Write a full fact family using 5, 18 and 90. [2 marks]

The factors multiply to ninety.

Answer: $5 \times 18 = 90$; $18 \times 5 = 90$; $90 \div 5 = 18$; $90 \div 18 = 5$.

3. Use multiplication to check $448 \div 8 = 56$. [2 marks]

$50 \times 8 = 400$ and $6 \times 8 = 48$.

Answer: $56 \times 8 = 448$, so it is correct.

4. A machine multiplies a number by six and produces 234. What inverse operation recovers the starting number? [2 marks]

Divide by the same non-zero factor.

Answer: $234 \div 6 = 39$.

5. How many different multiplication/division sentences are in the fact family for 8, 8 and 64? Write them. [2 marks]

Swapping the equal factors repeats the same sentence.

Answer: Two: $8 \times 8 = 64$ and $64 \div 8 = 8$.

6. Explain why $0 \times 7 = 0$ does not allow the division sentence $0 \div 0 = 7$. [2 marks]

Any number multiplied by zero gives zero, so this cannot identify one unique quotient.

Answer: Division by zero is undefined.