Inverse fact families

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

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

Start with sixty-three and divide by each factor.

Answer: 63 ÷ 7 = 9 and 63 ÷ 9 = 7.

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

The factors multiply to ninety.

Answer: 5 × 18 = 90; 18 × 5 = 90; 90 ÷ 5 = 18; 90 ÷ 18 = 5.

3. Use multiplication to check 448 ÷ 8 = 56. [2 marks]

50 × 8 = 400 and 6 × 8 = 48.

Answer: 56 × 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 ÷ 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 × 8 = 64 and 64 ÷ 8 = 8.

6. Explain why 0 × 7 = 0 does not allow the division sentence 0 ÷ 0 = 7. [2 marks]

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

Answer: Division by zero is undefined.