Equations with rational solutions

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Solve $2x = 7$. [2 marks]

Divide both sides by 2.

Check $2(7/2) = 7$.

Answer: $x = 7/2$.

2. Solve $5x + 2 = 4$. [2 marks]

Subtract 2 to get $5x = 2$.

Divide by 5.

Answer: $x = 2/5$.

3. Solve $3x - 1 = -3$. [2 marks]

Add 1 to get $3x = -2$.

Divide by 3.

Answer: $x = -2/3$.

4. Solve $(x + 1)/4 = 3/2$. [2 marks]

Multiply both sides by 4: $x + 1 = 6$.

Subtract 1.

Answer: $x = 5$.

5. Solve $0.5x + 1.2 = 3.7$. [2 marks]

Subtract 1.2: $0.5x = 2.5$.

Divide by 0.5.

Answer: $x = 5$.

6. Solve $x/2 + x/3 = 5$. [3 marks]

Multiply every term by 6: $3x + 2x = 30$.

Then $5x = 30$; check $3 + 2 = 5$.

Answer: $x = 6$.