Multi-step linear equations

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Solve $4x + 3 = 19$. [2 marks]

$4x = 16$, so $x = 4$.

Answer: $x = 4$

2. Solve $7x - 5 = 3x + 15$. [2 marks]

$4x = 20$, so $x = 5$.

Answer: $x = 5$

3. Solve $2(3x + 4) = 5x + 14$. [2 marks]

$6x + 8 = 5x + 14$, hence $x = 6$.

Answer: $x = 6$

4. Solve $\frac{x+1}{4} = 3$. [2 marks]

$x + 1 = 12$.

Answer: $x = 11$

5. Solve $\frac{x}{2} - \frac{x}{3} = 4$. [2 marks]

Multiply every term by 6: $3x - 2x = 24$.

Answer: $x = 24$

6. A number is doubled and then increased by 9. The result equals five times the number minus 6. Form an equation and solve it. [3 marks]

$15 = 3x$.

Both original descriptions give 19.

Answer: $2x + 9 = 5x - 6$; $x = 5$.