Equations: brackets and constant denominators

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Worked example 1

Remove brackets, solve and check the original equation.

$$4(x-3)=2x+6$$

Guided attempt 2

Multiply both sides by 3 first, then solve and check.

$$\frac{x+1}{3}=5$$

1. 3 × [(x + 1)/3] = 3 × _____.
2. x + 1 = _____, so x = _____.
3. Original check: (_____ + 1)/3 = _____.

Prerequisite 3

Expand the product; no equation needs to be solved.

$$2(x-4)$$

Prerequisite 4

Calculate the product used when clearing a denominator of 2.

$$6\times\frac{1}{2}$$

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Independent practice 5

Solve and verify.

$$2(x+4)-3=x+9$$

Independent practice 6

Solve, taking care with the negative multiplier.

$$5-2(x-1)=3x-8$$

Independent practice 7

Clear the denominator and solve. Do not leave the standalone 1 unchanged.

$$\frac{x}{2}+1=4$$

Independent practice 8

Use a common multiplier for 3 and 5, then solve.

$$\frac{x-2}{3}=\frac{x+4}{5}$$

Exit question 9

Solve and check in the original fractional equation.

$$\frac{2x+1}{3}-1=4$$

Exit question 10

A learner multiplies (x + 2)/4 − 3 = 1 by 4 but writes x + 2 − 3 = 4. Identify the first error and solve correctly.

$$\frac{x+2}{4}-3=1$$