

10.2

Modelling and Solving Two-Step Equations:

$$ax + b = c$$

MathLinks 8, pages 380–387

Key Ideas Review

Circle the correct response to complete each statement.

- To solve an equation, (isolate/reverse) the variable on one side of the equal sign.
- When undoing the operations performed on the variable, (reverse/follow) the order of operations.
- Check your solution by (substitution/switching) or drawing a diagram.
- In the visuals used in this chapter, a white box or rectangle represents a (negative/positive) integer.
- In the visuals used in this chapter, a grey box or rectangle represents a (negative/positive) integer.

Practise and Apply

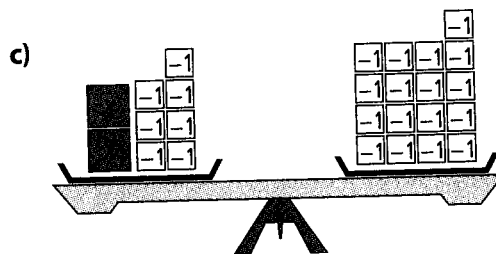
6. Write and solve each equation modelled below. Check your solution.

a)

x	+1		+1	+1	+1
x	+1	=	+1	+1	+1
x			+1	+1	

b)

x	=	-1	-1
x	=	-1	-1
x	=	-1	-1



7. Circle the first operation you should undo to solve each equation. Underline the second operation you should undo.

a) $5 + 3x = -7$ b) $4r - 6 = 14$

c) $13 = -6y - 11$ d) $-89 = 9t - 26$

8. Solve the equation. Check your solution.

a) $2x + 5 = 11$

b) $4p + 3 = 19$

c) $-25 = -6a - 43$

d) $15 = -11d - 18$

9. The Hornets won 19 games. This is 5 less than 4 times the number of games the Vampires won.



a) Let v represent the Vampires' wins. What equation models this situation? Explain your thinking.

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b) How many games did the Vampires win?

10. Show whether $x = 5$ is the solution to each equation.

a) $4x + 6 = -20$ b) $-5 - 2x = -15$

c) $8x - 4 = 36$ d) $13x + 12 = 77$

11. The length of a square's side is 10 cm. This square's perimeter is 7 cm more than the perimeter of an equilateral triangle.

a) Let s represent the length of one side of the triangle. What equation models this situation?

b) Solve the equation to find the length of the triangle's sides. Verify your answer.

12. A chalet rents for \$150 plus \$72 per person for a weekend.

a) Write an equation to model this situation.

b) How much will it cost 16 people to rent the chalet for one night?

c) If the group budgets \$1950 for the chalet rental, how many people can stay for the weekend?