

10 Chapter Review

Key Words

For #1 to #7, choose the word from the list that goes in each blank.

variables	distributive property	equations	constants
numerical coefficients	opposite operations	linear equations	

1. Letters that represent unknown numbers are called _____.
2. _____ are made up of 2 expressions that are equal to each other.
3. Multiplication and division are _____ of each other.
4. Numbers that are attached to a variable by multiplication are called _____.
5. $5(b + 3) = 5 \times b + 5 \times 3$ is an example of how you use the _____.
6. In the equation $2x - 7 = 5$, both -7 and 5 are _____.
7. Equations that, when graphed, result in points that lie along a straight line are called _____.

10.1 Modelling and Solving One-Step Equations: $ax = b$, $\frac{a}{x} = b$, pages 528–536

8. Solve by inspection.

a) $6r = -18$

$$6 \times \boxed{} = -18$$

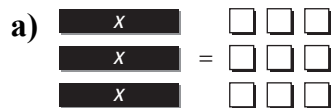
$r = \underline{\hspace{2cm}}$

b) $-5 = \frac{p}{3}$

$$-5 = \boxed{} \div 3$$

$p = \underline{\hspace{2cm}}$

9. Solve the equation modelled by each diagram. Check your answers.



Check:

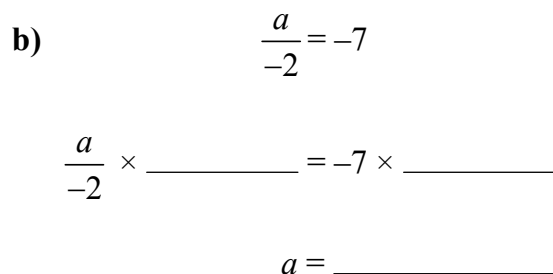
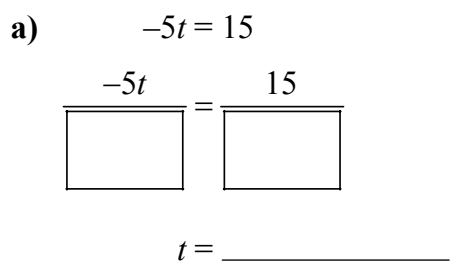
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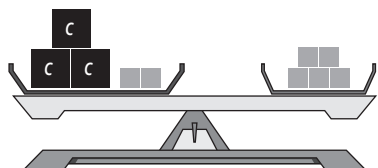
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10. Solve each equation using the opposite operation.



10.2 Modelling and Solving Two-Step Equations: $ax + b = c$, pages 538–547

11. Write and solve the equation modelled by the diagram. Check your answer.



Check:

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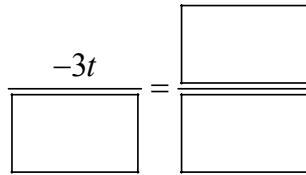
12. Solve each equation using opposite operations.

a) $-3t + 8 = 20$

b) $5j - 2 = -12$

$-3t + 8 - \underline{\hspace{2cm}} = 20 - \underline{\hspace{2cm}}$

$-3t = \underline{\hspace{2cm}}$



$t = \underline{\hspace{2cm}}$

13. Zoë has a collection of CDs and DVDs.

The number of CDs is 3 fewer than 4 times the number of DVDs. Zoë has 25 CDs.

a) Write an equation for this situation.

Let d represent the DVDs.

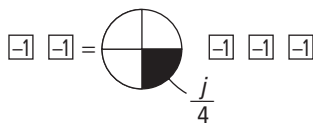
number of CDs = 3 fewer than 4 times the DVDs: _____

b) Solve the equation.

Zoë has _____ DVDs.

10.3 Modelling and Solving Two-Step Equations: $\frac{x}{a} + b = c$, pages 549–556

14. Solve the equation modelled by the diagram.



Equation: _____

Diagram after isolating the variable:

$j = \underline{\hspace{2cm}}$

Name: _____

Date: _____

15. Solve. Check your answers.

a) $\frac{d}{3} - 13 = -8$

b) $17 = -4 + \frac{x}{-2}$

$\frac{d}{3} - 13 + \underline{\hspace{2cm}} = -8 + \underline{\hspace{2cm}}$

$\frac{d}{3} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$

$d = \underline{\hspace{2cm}}$

Check:

Left Side	Right Side

Check:

Left Side	Right Side

16. An airplane ticket is on sale for \$350.

The sale price is one third of the regular price, plus \$100 in taxes.

a) Write an equation to represent this situation.

Let r = the regular price.

Sale price = $\frac{1}{3}$ of the regular price + \$100

b) What is the regular price of the airplane ticket? Solve the equation.

Sentence: _____

10.4 Modelling and Solving Two-Step Equations: $a(x + b) = c$, pages 558–567

17. Solve the equation modelled by each diagram. Check your answers.



Check:

Left Side	Right Side



Check:

Left Side	Right Side

18. Solve. Check your answers.

a) $6(q - 13) = 24$

b) $2(g + 4) = 14$

$$\frac{6(q - 13)}{\boxed{}} = \frac{24}{\boxed{}}$$

$q = \underline{\hspace{2cm}}$

Check:

Left Side	Right Side

Check:

Left Side	Right Side

19. Solve using the distributive property.

a) $-5(w - 4) = 10$

b) $4(m - 3) = 12$

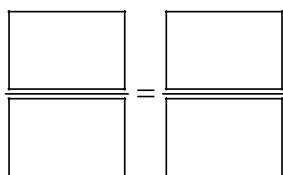
$$\begin{array}{c} \curvearrowright \\ \curvearrowleft \\ -5(w - 4) = 10 \end{array}$$

_____ + _____ = 10

_____ + _____ - _____ = 10 - _____

_____ = 10 + (_____)

_____ = _____



$w =$ _____

20. Each side of a square is decreased by 3 cm.
 The perimeter of the new square is 48 cm.
 What is the length of each side of the original square?

a) Write an equation. The length of the each side of the original square is s .

length of the each side after decreasing it by 3 cm = _____

perimeter of the new square = _____

Since all 4 sides are equal, the equation is $4(\text{_____}) = \text{_____}$.

b) Solve the equation to find the length of each side of the square.

Sentence: _____