

Lesson 26: One-Step Equations—Addition and Subtraction

Classwork

Exercise 1

Solve each equation. Use both tape diagrams and algebraic methods for each problem. Use substitution to check your answers.

a. $b + 9 = 15$

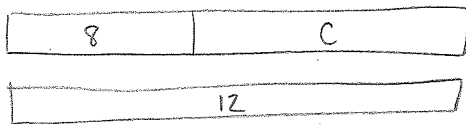


$$b = 6$$

✓: $b + 9 = 15$
 $6 + 9 = 15$

Algebraically: $b + 9 = 15$
 $b + 9 - 9 = 15 - 9$
 $b = 6$

b. $12 = 8 + c$



$$\checkmark: 12 = 8 + c$$

$$12 = 8 + 4$$

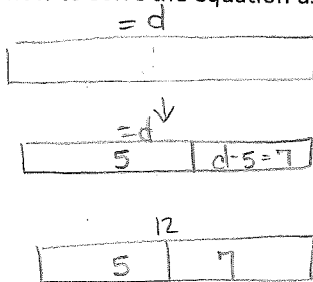
Algebraically:

$$12 = 8 + c$$
$$12 - 8 = 8 + c - 8$$
$$4 = c$$

Exercise 2

Given the equation $d - 5 = 7$:

- a. Demonstrate how to solve the equation using tape diagrams.



- b. Demonstrate how to solve the equation algebraically.

$$d - 5 = 7$$

$$d - 5 + 5 = 7 + 5$$

$$d = 12$$

- c. Check your answer. ✓

$$12 - 5 = 7$$

$$7 = 7$$

Exercise 3

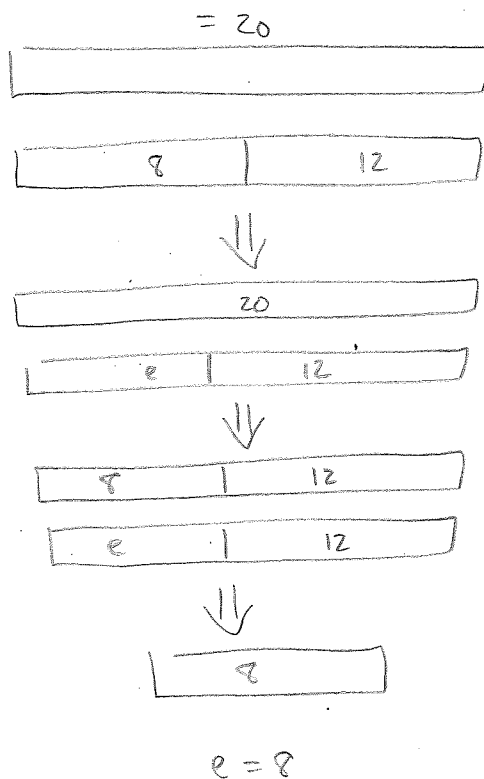
Solve each problem, and show your work. You may choose which method (tape diagrams or algebraically) you prefer. Check your answers after solving each problem.

a. $e + 12 = 20$

$$e + 12 = 20$$

$$e + 12 - 12 = 20 - 12$$

$$e = 8$$



b. $f - 10 = 15$

$$f - 10 + 10 = 15 + 10$$

$$f = 25$$

$$\begin{aligned} \checkmark: \quad & f - 10 = 15 \\ & 25 - 10 = 15 \\ & 15 = 15 \end{aligned}$$

f	
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10	f - 10 = 15
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25	
10	15

c. $g - 8 = 9$

$$g - 8 + 8 = 9 + 8$$

$$g = 17$$

g	
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g	
8	g - 8 = 9

17	
8	9