

# Lesson 26: One-Step Equations—Addition and Subtraction

## Classwork

$$7 = b + 6$$

$$7 - 6 = b + 6 - 6$$

$$1 = b \text{ or } b = 1$$

## Exercise 1

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

✓ a.  $b + 9 = 15$

$$b + 9 = 15$$

$$15 = 15$$

$$b + 9 - 9 = 15 - 9$$

$$b = 6$$



Mar 13-5:53 AM

✓ b.  $12 = 8 + c$

$$12 = 8 + 4$$

$$12 = 12$$

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

$$4 = c$$



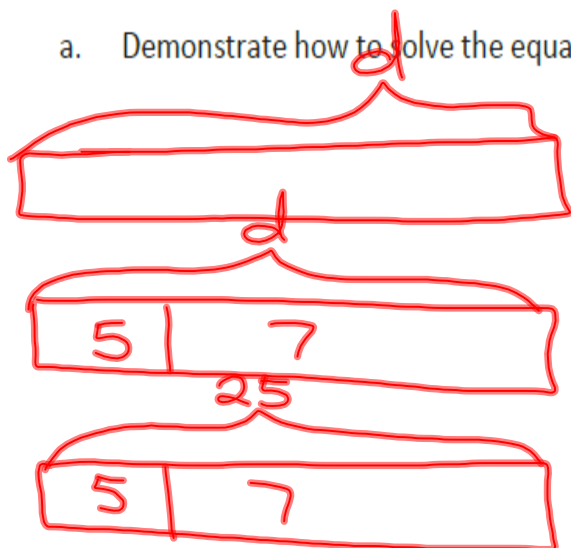
$$4 + 8 = 12$$

Mar 13-6:26 AM

## Exercise 2

Given the equation  $d - 5 = 7$ :

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



Mar 13-6:26 AM

- b. Demonstrate how to solve the equation algebraically.

$$d - 5 = 7$$
$$d - \cancel{5} + \cancel{5} = 7 + 5$$
$$d = 12$$

- c. Check your answer.

$$12 - 5 = 7$$
$$7 = 7$$

Mar 13-6:27 AM

Exercise 3

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

a.  $e + 12 = 20$

$e + 12 - 12 = 20 - 12$

$e = 8$



b.  $f - 10 = 15$

$f - 10 + 10 = 15 + 10$

$f = 25$

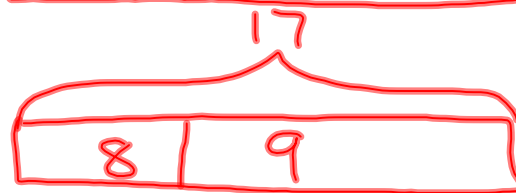
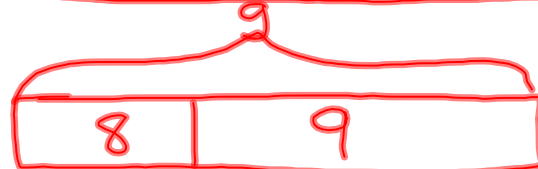


Mar 13-6:27 AM

c.  $g - 8 = 9$

$g - 8 + 8 = 9 + 8$

$g = 17$



Mar 13-6:28 AM

### Problem Set

1. Find the solution to the equation below using tape diagrams. Check your answer.

$$m - 7 = 17$$

2. Find the solution of the equation below algebraically. Check your answer.

$$n + 14 = 25$$

3. Find the solution of the equation below using tape diagrams. Check your answer.

$$p + 8 = 18$$

4. Find the solution to the equation algebraically. Check your answer.

$$g - 62 = 14$$

5. Find the solution to the equation using the method of your choice. Check your answer.

$$m + 108 = 243$$

Mar 13-6:28 AM

6. Identify the mistake in the problem below. Then, correct the mistake.

$$\begin{aligned} p - 21 &= 34 \\ p - 21 - 21 &= 34 - 21 \\ p &= 13 \end{aligned}$$

7. Identify the mistake in the problem below. Then, correct the mistake.

$$\begin{aligned} q + 18 &= 22 \\ q + 18 - 18 &= 22 + 18 \\ q &= 40 \end{aligned}$$

8. Match the equation with the correct solution on the right.

$$r + 10 = 22$$

$$r = 10$$

$$r - 15 = 5$$

$$r = 20$$

$$r - 18 = 14$$

$$r = 12$$

$$r + 5 = 15$$

$$r = 32$$

Mar 13-6:29 AM

## Exit Ticket

1. If you know the answer, state it. Then use a tape diagram to demonstrate why this is the correct answer. If you do not know the answer, find the solution using a tape diagram.

$$j + 12 = 25$$

Mar 13-6:30 AM

2. Find the solution to the equation algebraically. Check your answer.

$$k - 16 = 4$$

Mar 13-6:30 AM