Suggested Assignment

CHECK YOUR UNDERSTANDING
p. 162, #3c–6

UNIT 3 PRACTICE
p. 172, #15c–17

CHECK YOUR UNDERSTANDING

1a. What number can you subtract from 43 and get 35? 8

b. What number can you add to 9 and get 17? 8

c. What number times 9 equals 36? 4

2a. $\frac{n}{4} = 6$; $n = 24$

b. $n + 13 = 63$; $n = 50$

3a. $w = 5.95$

b. $y = \frac{1}{2}$

c. $x = 3.2$

d. $p = 406$

e. $x = 27$

4a. [Amount of money still to be raised] + [Amount of money raised] = [Cost of the books] or [Cost of the books] − [Amount of money raised] = [Amount of money still to be raised]

b. [Amount of money still to be raised] = n
[Amount of money raised] = 72
[Cost of the books] = 105

c. $n + 72 = 105$ or $105 - 72 = n$

d. \$33

ACTIVITY 3.3 continued

Solving One-Step Equations
Becoming Undone

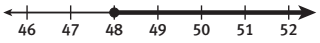
EXAMPLE 7

Find the value of x if $\frac{x}{6}$ is greater than or equal to 8. Graph the solution.

Step 1: Write the problem. $\frac{x}{6} \geq 8$

Step 2: Multiply both sides by 6 to undo dividing by 6. $\frac{x}{6} \times 6 \geq 8 \times 6$

Solution: $x \geq 48$



Check: Choose any number greater than or equal to 48, such as 54, and substitute it for x in the original inequality.

$$\frac{x}{6} \geq 8$$
$$\frac{54}{6} \stackrel{?}{\geq} 8$$
$$9 \geq 8$$

TRY THESE F

Solve and graph each inequality. Check your work. Check students' graphs

a. $7x < 9.1$ $x < 1.3$ **b.** $\frac{3}{4}x > 27$ $x > 36$

CHECK YOUR UNDERSTANDING

Write your answers on notebook paper. Show your work.

1. Write a question that will help solve each equation. Then use mental math to solve.
- **a.** $43 - x = 35$
- **b.** $w + 9 = 17$
- **c.** $9p = 36$

2. Write an equation for each question. Solve the equation and check your solution.
- **a.** What number can you divide by 4 to get 6?
- **b.** What number is added to 13 to get 63?

3. Solve and check each equation.
- **a.** $w - 1.23 = 4.72$
- **b.** $\frac{7}{6} = y + \frac{2}{3}$
- **c.** $2.7x = 8.64$
- **d.** $29 = \frac{p}{14}$
- **e.** $\frac{2}{3}x = 18$

4. The Math Club wants to buy math history books for the library. The total cost is \$105. So far they have raised \$72. How much more do they need to buy the books?
- **a.** Write a verbal model.
- **b.** Use numbers and variables to write expressions.
- **c.** Write an equation.
- **d.** How much more money does the Math Club need to earn?

5. Solve and graph each inequality.
- **a.** $1.2x \leq 9.6$
- **b.** $y - 11 > 11$
- **c.** $w + 1.5 < 5$
- **d.** $\frac{n}{4} \geq 8$

6. MATHEMATICAL REFLECTION Why is it important to have a systematic way to solve equations rather than just relying on "mental math"?

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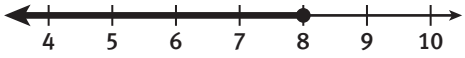
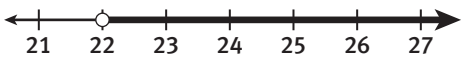
5a. $x \leq 8$

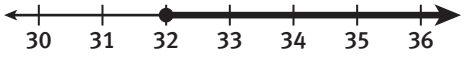


b. $y > 22$



c. $w < 3.5$

d. $n \geq 32$



6. Answers may vary. Sample answer: Sometimes numbers are too large or too difficult to do with mental math or by drawing a model. That is when you need a systematic way to solve equations using paper and pencil.

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