ACTIVITY 3.3 Continued

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

b. Amount of money still to be raised = Amount of money raised

Amount of money raised = 72
Cost of the books = 105

\( n + 72 = 105 \) or \( 105 - 72 = n \)
d. $33

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. Check your work. Check students’ graphs

a. \( 7x < 9.1 \) \( x < \frac{9.1}{7} \)
b. \( \frac{3}{4}x > 27 \) \( x > 36 \)

c. \( w + 1.5 < 5 \)
d. \( \frac{n}{4} \geq 8 \)

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

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.
\( x \geq 48 \)

Solution:

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

\( \frac{54}{6} = 9 \geq 8 \)

TRY THESE

Solve and graph each inequality. Check your work.
a. \( 7x < 9.1 \) \( x < \frac{9.1}{7} \)
b. \( \frac{3}{4}x > 27 \) \( x > 36 \)

c. \( w + 1.5 < 5 \)
d. \( \frac{n}{4} \geq 8 \)

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.