

# 2.17

## Solving a Linear Inequality: Problem Type 2

### • Example 1

Solve the inequality

$$7x + 3 \leq 17$$

To isolate  $x$  in this inequality, we first subtract 3 from both sides.

$$7x + 3 - 3 \leq 17 - 3$$

$$7x \leq 14$$

Next, we divide both sides by 7.

$$\frac{7x}{7} \leq \frac{14}{7}$$

$$x \leq 2$$

### • • • CHECK YOURSELF 1

Solve the following inequalities.

a.  $8x - 7 \leq 1$

b.  $2x - 3 > 5$

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### • • • CHECK YOURSELF ANSWER

1. (a)  $x \leq 1$ ; (b)  $x > 4$ .

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# 2.17 Exercises

Name \_\_\_\_\_

Section \_\_\_\_\_

Date \_\_\_\_\_

## A N S W E R S

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

Solve the following inequalities.

1.  $3x \leq 9$

2.  $5x > 20$

3.  $5x > -35$

4.  $7x \leq -21$

5.  $4x \geq -12$

6.  $2x + 3 \geq 9$

7.  $2x - 5 \leq 9$

8.  $3x - 5 < 4$

9.  $8x + 13 > 37$

10.  $7x - 4 < 24$

11.  $5x + 22 \geq 57$

12.  $9x - 16 < 56$