

# 2.17

## Solving a Linear Inequality: Problem Type 4

### • Example 1

Solve the inequality.

$$3x - 9 \leq \frac{2}{3}x - 7$$

Our goal is to isolate  $x$ .

$$3x - \frac{2}{3}x - 9 \leq -7$$

$$3x - \frac{2}{3}x \leq 2$$

$$\frac{7}{3}x \leq 2$$

$$x \leq \frac{6}{7}$$

### • • • CHECK YOURSELF 1

Solve the inequality.

$$\frac{1}{3}x - 7 \geq \frac{4}{3}x - 9$$

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### • • • CHECK YOURSELF ANSWER

1.  $x \leq 2$ .

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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. \_\_\_\_\_

Solve the inequalities.

1.  $\frac{4}{5}x - 2 \leq -\frac{1}{5}x + 3$

2.  $3x - 4 \leq 10x - 15$

3.  $\frac{1}{2}x - \frac{1}{2} \leq \frac{3}{2}x + \frac{7}{2}$

4.  $\frac{8}{3}x - 3 \geq 2x - 9$

5.  $x - 7 \leq 2x + 4$

6.  $\frac{6}{11}x + 4 < \frac{x}{11} + \frac{4}{11}$

7.  $2x + \frac{3}{5} > \frac{5}{3}x + \frac{4}{5}$

8.  $\frac{7}{3}x - 2 > 9 + \frac{x}{3}$

9.  $\frac{5}{2}x - 1 < 4 - \frac{7}{3}x$

10.  $\frac{8}{3}x + 4 < -4 - \frac{4}{3}x$