

# Lesson 7 Reteach

## Solve Inequalities by Multiplication or Division

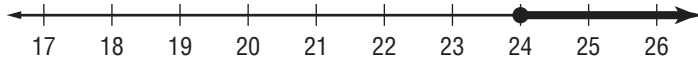
When you multiply or divide each side of an inequality by a positive number, the inequality remains true. However, when you multiply or divide each side of an inequality by a negative number, the direction of the inequality must be reversed for the inequality to remain true.

### Example 1

Solve  $\frac{t}{-6} \leq -4$ . Then graph the solution set on a number line.

$$\begin{aligned} \frac{t}{-6} &\leq -4 && \text{Write the inequality.} \\ \frac{t}{-6}(-6) &\geq -4(-6) && \text{Multiply each side by } -6 \text{ and reverse the inequality symbol.} \\ t &\geq 24 && \text{Simplify.} \end{aligned}$$

To graph the solution, place a closed circle at 24 and draw a line and arrow to the right.



### Example 2

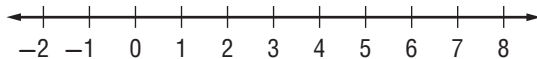
Solve  $\frac{4}{5}x - 5 < 23$ .

$$\begin{aligned} \frac{4}{5}x - 5 &< 23 && \text{Write the inequality.} \\ \frac{4}{5}x - 5 + 5 &< 23 + 5 && \text{Add 5 to each side.} \\ \frac{4}{5}x &< 28 && \text{Simplify.} \\ \left(\frac{5}{4}\right)\frac{4}{5}x &< \left(\frac{5}{4}\right)28 && \text{Multiply each side by } \frac{5}{4}. \\ x &< 35 && \text{Simplify.} \end{aligned}$$

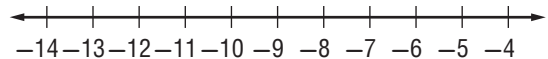
### Exercises

Solve each inequality. Then graph the solution on a number line.

1.  $3a > 12$



2.  $6 \geq \frac{r}{-2}$



Solve each inequality. Check your solution.

3.  $-3.1c + 2 \geq 2$

4.  $13 > -\frac{2}{3}y - 3$

5.  $-\frac{h}{5} - 6 < -10$

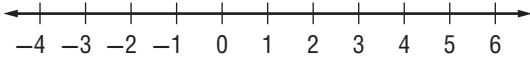
6.  $6a + 13 \leq 31$

# Lesson 7 Skills Practice

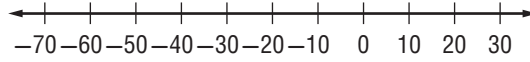
## Solve Inequalities by Multiplication or Division

Solve each inequality. Graph the solution set on a number line.

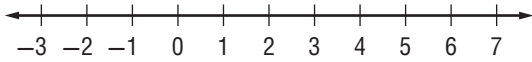
1.  $3v > 12$



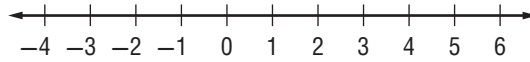
2.  $\frac{p}{4} < -15$



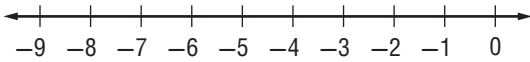
3.  $-12 \leq -3g$



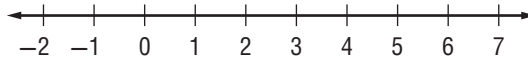
4.  $60 \geq 12c$



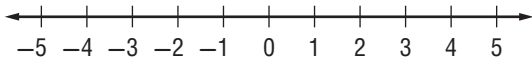
5.  $\frac{a}{2} > -4$



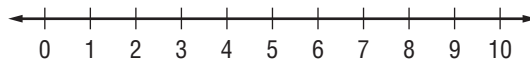
6.  $1 \leq \frac{u}{5}$



7.  $-14 \geq 7n$



8.  $-4d \geq -36$



Solve each inequality. Check your solution.

9.  $3a + 6 < -10$

10.  $\frac{b}{5} - 4 \geq -29$

11.  $\frac{m}{2} + 6 < 10$

12.  $\frac{2}{3} + \frac{1}{6}r > -1$

13.  $-6d + 7 \leq 1$

14.  $\frac{z}{-8} - 5 < -3$

15.  $-2y - 5 \leq 31$

16.  $2.1n \leq -4.6n + 13.4$

17.  $3x + 2 < x - 6$

18.  $y - 3 > 2y - 7$

19.  $\frac{a}{4} + 5 < a - 4$

20.  $1.5g - 12 > \frac{3g}{4}$