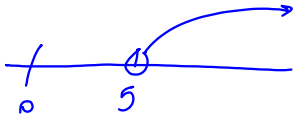
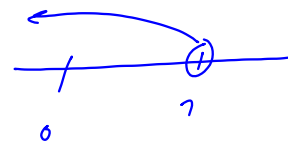


5.4 Inequalities in
One variable

$$x > 5$$



$$\begin{aligned} x - 5 &< 2 \\ +5 &+5 \\ x &< 7 \end{aligned}$$



$$2x - 3 \leq 11$$

$$+3 \quad +3$$

$$\frac{2x}{2} \leq \frac{14}{2}$$

$$x \leq 7$$



$$x - 2(3x - 4) > -2$$

$$x - 6x + 8 > -2$$

$$-5x > -10$$

$$x < 2$$

When you divide or
multiply by a negative

you flip the inequality

$$\frac{-x}{-1} > \frac{3}{-1}$$

$$x < -3$$

$$-x > \frac{3}{-1}x$$

$$+x > 3+x$$

$$-3 > -3$$

$$-3 > x$$

$$x + 4 > 3x + 24$$

$$-4 > 3x + 20$$

$$-2x > \frac{20}{-2}$$

$$x < -10$$

John saves \$450 dollars per week. He already has 2000 saved. How long until he has at least 10,000 saved

$$\begin{array}{r} 2000 + 450w \geq 10,000 \\ - 2000 \quad - 2000 \\ \hline 450w \geq 8000 \\ \hline w \geq 17.78 \end{array}$$

17 weeks

$$w \geq 17.78$$

At noon the high temp was 38°. If the temp dropped an average of 5° per hour. After how many hours was the temp below 0°

$$\begin{array}{r} 38 - 5h < 0 \\ - 38 \quad - 38 \\ \hline -5h < -38 \\ \hline h > 7.6 \end{array}$$

hours