

1. A train leaves Little Rock, Arkansas and travels north at 90 mph. Another train leaves at the same time traveling south at 65 mph. How long will it take before they are 465 miles apart?

$$465 = 90t + 65t$$

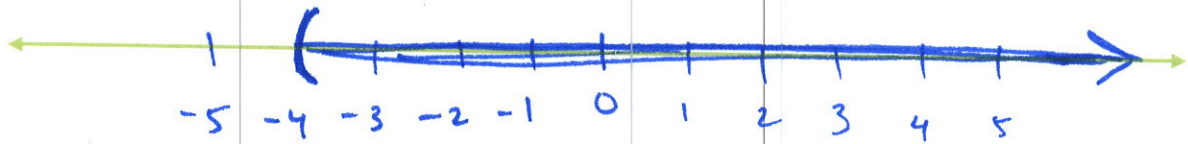
$$\frac{465}{155} = \frac{155t}{155}$$

$$\Rightarrow t = 3 \text{ hours}$$

2. Solve the inequality $4x - 2 < 6(x + 1)$. Draw the solution on the number line below and write the solution also in interval notation.

$$\begin{array}{r} 4x - 2 < 6x + 6 \\ -4x \quad -4x \\ \hline -2 < 2x + 6 \\ -6 \quad -6 \\ \hline -8 < 2x \end{array}$$

$$\begin{array}{r} 2x > -8 \\ \frac{2x}{2} > \frac{-8}{2} \\ x > -4 \end{array}$$



$$(-4, \infty)$$