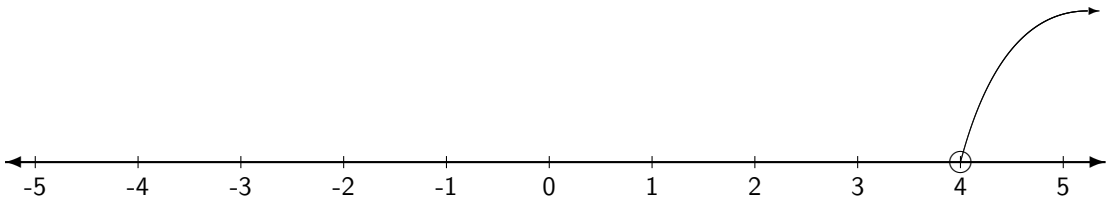
Samples **Solve inequality SOLUTIONS**

1.

$$\begin{aligned} x - 3 &< 5x - 19 \\ x - 3 + 3 &< 5x - 19 + 3 \\ x &< 5x - 16 \\ x - 5x &< 5x - 5x - 16 \\ -4x &< -16 \\ -4x \div (-4) &> -16 \div (-4) \\ x &> 4 \end{aligned}$$

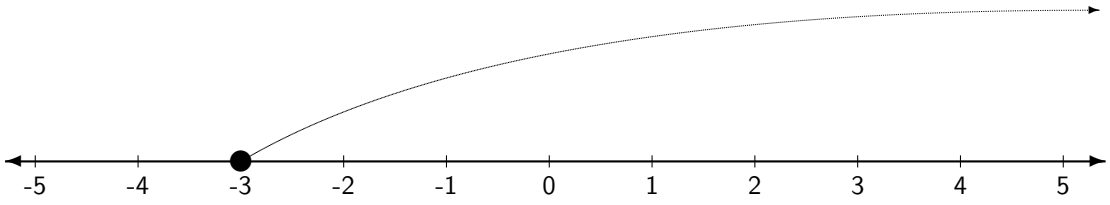
In interval format the answer is $(4, \infty)$, and on a real line the answer is:



2.

$$\begin{aligned} 2x - 3 &\leq 5x + 6 \\ 2x - 3 + 3 &\leq 5x + 6 + 3 \\ 2x &\leq 5x + 9 \\ 2x - 5x &\leq 5x - 5x + 9 \\ -3x &\leq 9 \\ -3x \div (-3) &\geq 9 \div (-3) \\ x &\geq -3 \end{aligned}$$

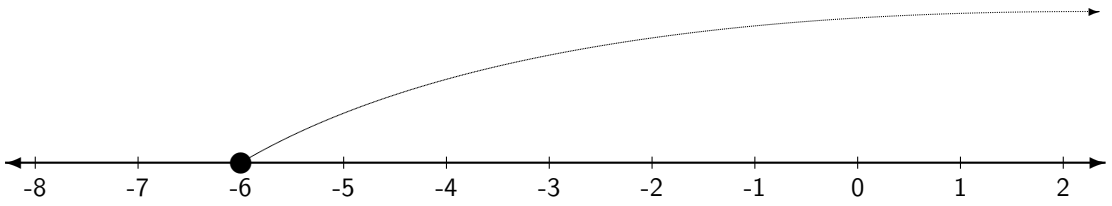
In interval format the answer is $[-3, \infty)$, and on a real line the answer is:



3.

$$\begin{aligned} 7x - 1 &\geq 6x - 7 \\ 7x - 1 + 1 &\geq 6x - 7 + 1 \\ 7x &\geq 6x - 6 \\ 7x - 6x &\geq 6x - 6x - 6 \\ x &\geq -6 \end{aligned}$$

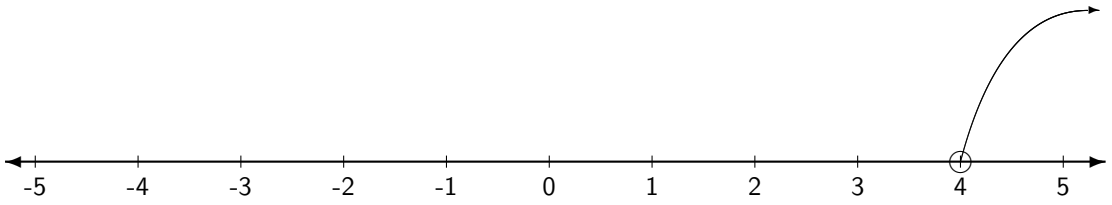
In interval format the answer is $[-6, \infty)$, and on a real line the answer is:



4.

$$\begin{aligned} 2x + 3 &< 3x - 1 \\ 2x + 3 - 3 &< 3x - 1 - 3 \\ 2x &< 3x - 4 \\ 2x - 3x &< 3x - 3x - 4 \\ -x &< -4 \\ -x \div (-1) &> -4 \div (-1) \\ x &> 4 \end{aligned}$$

In interval format the answer is $(4, \infty)$, and on a real line the answer is:



5.

$$\begin{aligned} -8x + 3 &< -6x - 3 \\ -8x + 3 - 3 &< -6x - 3 - 3 \\ -8x &< -6x - 6 \\ -8x + 6x &< -6x + 6x - 6 \\ -2x &< -6 \\ -2x \div (-2) &> -6 \div (-2) \\ x &> 3 \end{aligned}$$

In interval format the answer is $(3, \infty)$, and on a real line the answer is: