

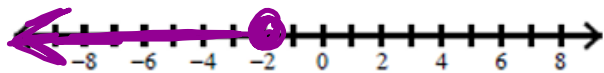
$$3. 3x - 7(x + 3) \geq -13$$

$$3x - 7x - 21 \geq -13$$

$$-4x - 21 \geq -13$$

$$\begin{array}{r} +21 \quad +21 \\ \hline -4x \geq 8 \\ \hline -4 \quad -4 \end{array}$$

$$x \leq -2$$



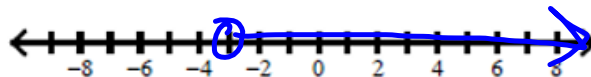
$$4. 4 - 8x < 2(5 - 3x)$$

$$\begin{array}{r} 4 - 8x < 10 - 6x \\ +6x \quad \quad +6x \\ \hline \end{array}$$

$$\begin{array}{r} 4 - 2x < 10 \\ -4 \quad \quad -4 \\ \hline \end{array}$$

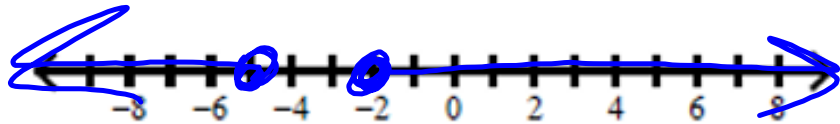
$$\begin{array}{r} -2x < 6 \\ \hline -2 \quad -2 \end{array}$$

$$x > -3$$



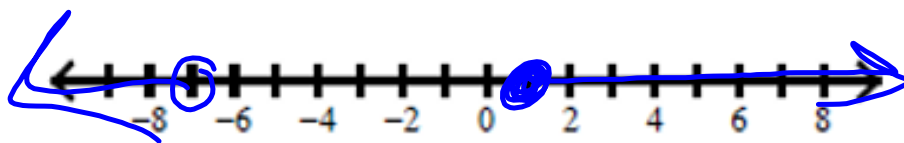
5.  $x + 7 \leq 2$  or  $x + 5 \geq 3$

$$\begin{array}{r} -7 \quad -7 \\ \hline x \leq -5 \end{array} \quad \left. \begin{array}{r} -5 \quad -5 \\ \hline x \geq -2 \end{array} \right\}$$



6.  $3x + 5 < -16$  or  $-5x - 8 \leq -13$

$$\begin{array}{r} -5 \quad -5 \\ \hline 3x < -21 \\ \hline 3 \quad 3 \\ \hline x < -7 \end{array} \quad \left. \begin{array}{r} +8 \quad +8 \\ \hline -5x \leq -5 \\ \hline -5 \quad -5 \\ \hline x \geq 1 \end{array} \right\}$$

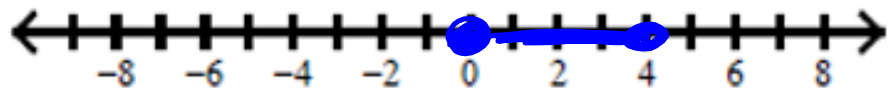


$$7. -2 \leq 3x - 2 < 10$$

$$\begin{array}{ccc} +2 & +2 & +2 \\ \hline \end{array}$$

$$0 \leq 3x < 12$$

$$0 \leq x < 4$$

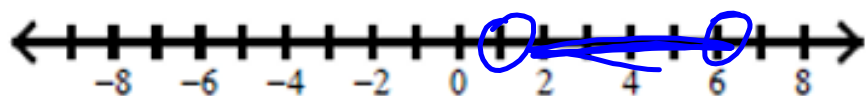


$$8. 3 < 2x + 1 < 13$$

$$\begin{array}{ccc} -1 & -1 & -1 \\ \hline \end{array}$$

$$2 < 2x < 12$$

$$1 < x < 6$$



Unit 6: Polynomials

Directions: Simplify

1.  $(5 + 2x^3 + x - 3x^2) + (4x^3 + 11 - 6x + 7x^2)$

$$\textcircled{5} + \textcircled{2x^3} + \textcircled{x} - \textcircled{3x^2} + \textcircled{4x^3} + \textcircled{11} - \textcircled{6x} + \textcircled{7x^2}$$

$$6x^3 - 10x^2 - 5x + 16$$

2.  $(2x^2 + 3x + 2) - (x^2 - 4x - 1)$

$$\textcircled{2x^2} + \textcircled{3x} + \textcircled{2} - \textcircled{x^2} + \textcircled{4x} + \textcircled{1}$$

$$x^2 + 7x + 3$$

$$3. 3a^2b^3(2a^2 - 7ab + b^2)$$

$$6a^4b^3 - 21a^3b^4 + 3a^2b^5$$

$$4. (x + 4)(x + 9)$$

	$x$	$+4$
$x$	$x^2$	$4x$
$+9$	$9x$	$+36$

$$x^2 + 13x + 36$$

5.  $(2a + 5b)(a - 3b)$

	$2a$	$+5b$
$a$	$2a^2$	$5ab$
$-3b$	$-6ab$	$-15b^2$

$$2a^2 - 1ab - 15b^2$$

6.  $(x + 8)(x - 8)$

	$x$	$+8$
$x$	$x^2$	$8x$
$-8$	$-8x$	$-64$

$$x^2 - 64$$

$$7. (2y-1)^2 = (2y-1)(2y-1)$$

	$2y$	$-1$
$2y$	$4y^2$	$-2y$
$-1$	$-2y$	$+1$

$$4y^2 - 4y + 1$$

$$8. \frac{18a^3b + 12a^2b^2 - 6ab}{6ab}$$

$$\frac{18a^3b}{6ab} + \frac{12a^2b^2}{6ab} - \frac{6ab}{6ab}$$

$$3a^2 + 2ab - 1$$

$$9. \frac{-24x^4 + 48x^3 - 8x^2}{8x^3}$$

$$\frac{-24x^4}{8x^3} + \frac{48x^3}{8x^3} - \frac{8x^2}{8x^3}$$

$$-3x + 6 - \frac{1}{x}$$

$$-3x + 6 - \frac{1}{x}$$