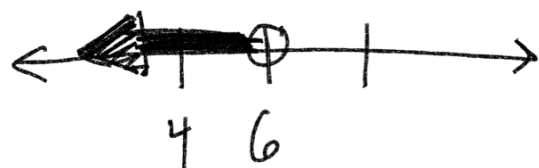


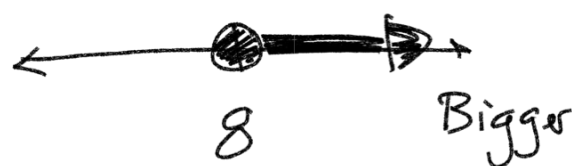
1.) $x < 6$



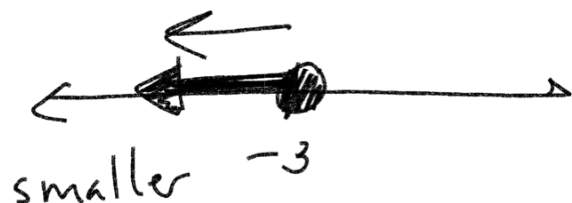
$> <$

$\geq \leq$

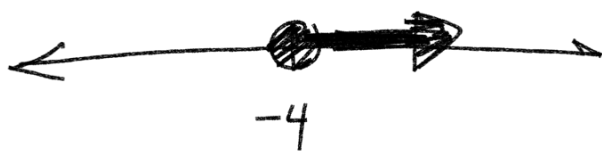
2.) $8 \leq x$ Bigger



3.) $-3 \geq x$ smaller

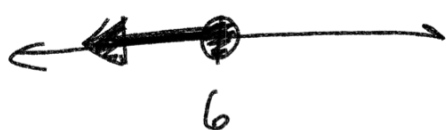


4.) $x \geq -4$



$$\begin{array}{r} x + 5 \leq 11 \\ -5 \quad -5 \end{array}$$

$x \leq 6$



$$\begin{array}{r} -6x > 42 \\ \hline -6 \quad \downarrow \quad -6 \\ x < -7 \end{array}$$

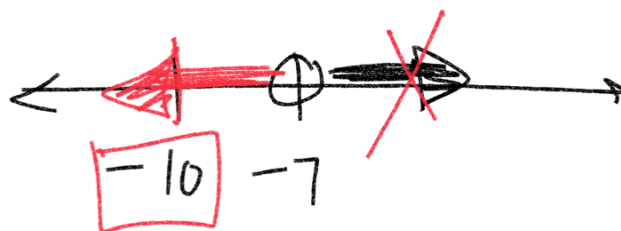
When you multiply or divide by a negative, you flip inequality

Why the flipping?

$-6x > 42$

$-6(-10) > 42$

$60 > 42$ true

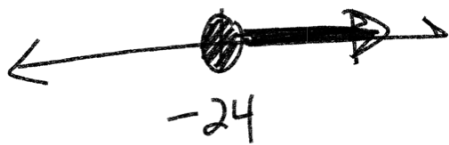


$$\begin{array}{r} -6x > 42 \\ \hline -6 \quad -6 \end{array}$$

$x > -7$

$$1.) \left(\frac{x}{8}\right)^8 \geq (-3)^8$$

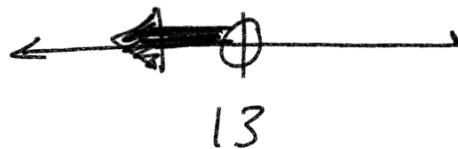
$$x \geq -24$$



$$2.) x - 4 < 9$$

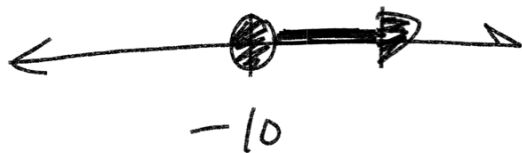
$$+4 \quad +4$$

$$x < 13$$



$$3.) \left(\frac{x}{-5}\right) \leq (2)(-5)$$

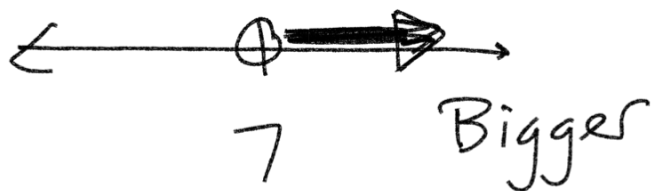
$$x \geq -10$$



$$4.) 13 < x + 6$$

$$-6 \quad -6$$

$$7 < x \quad \text{Bigger}$$



Pre-Algebra
Chapter 2 Practice Test

1.) (1 pt each) Properties of Numbers (2-1) Write the name of the property shown.

a) $3(a + b) = 3a + 3b$
Distributive

b) $2 \times 1 = 2$

Identity

c) $3 + 13 + 7 = 3 + 7 + 13$
Commutative

d) $(17 \times 5) \times 20 = 17 \times (5 \times 20)$
Associative

Commutative - C
Associative - A
Identity - ID
Inverse - IV
Distributive - D

2.) (4 pts each) Distributive Property (2-2) Simplify each expression.

a) $7(5a + 3)$
 $7(5a) + 7(3)$
 $35a + 21$
 $(5a+3) + (5a+3) + (5a+3) + (5a+3) + (5a+3) + (5a+3) + (5a+3)$

b) $(4 + x)(6)$

c) $-(3y + 2) = -3y - 2$

d) $-8(11a - 9)$
 $-88a + 72$

Combine Like Terms

3.) (4 pts each) Simplifying Variable Expressions (2-3) Simplify each expression.

a) $15a + 8b - 9a + 3b$

$$\begin{array}{rcl} 15a - 9a & 8b + 3b & \\ 6a & 11b & \end{array}$$
$$6a + 11b$$

b) $8c + 7(2c - 3)$

c) $3(4 + x) - 8(2x + 4)$

$$\begin{array}{rcl} 3(4 + x) + -8(2x + 4) & & \\ 3x + (-16x) = -13x & & \\ 12 + (-32) = -20 & & \\ -13x - 20 & & \end{array}$$

d) $9y - 2(3y - 5) + 7$

4.) (4 pts each) Solving Equations by Adding or Subtracting (2-5) Solve each equation.

a) $b + 8 = 21$

$$\begin{array}{r} -8 \quad -8 \\ \hline b = 13 \end{array}$$

b) $-14 + x = 18$

c) $a - 11 = 54$
 $+11 \quad +11$
 $a = 65$

d) $38 = y - 13$

5.) (4 pts each) Solving Equations by Multiplying or Dividing (2-6) Solve each equation.

a) $\frac{6a}{6} = \frac{72}{6}$
 $a = 12$

b) $\frac{y}{8} = (5)8$
 $y = 40$

c) $-15t = 45$

d) $\frac{w}{-9} = 12$

6.) (2 pts each) Inequalities and Their Graphs (2-8) Graph the solutions to each inequality on a number line.

a) $6 > y$



b) $q \leq 12$

c) $b > -3$



d) $-5 \leq h$

7.) (4 pts each) Solving One-Step Inequalities by Adding or Subtracting (2-9) Solve each inequality. Graph the solutions.

a) $7 + a < 9$

b) $29 \leq x + 12$
 $-12 \quad -12$

$17 \leq x$



$$\text{c) } -30 > b - 9$$

$$+9 \quad +9$$

$$-21 > b$$



8.) (4 pts each) Solving One-Step Inequalities by Multiplying or Dividing (2-10) Solve each inequality. Graph the solutions.

$$\text{a) } 9x \leq 36$$

$$\text{b) } 16 < \left(\frac{y}{5}\right) 5$$

$$80 < y$$



$$\text{c) } \frac{48}{-8} \geq \frac{-8b}{-8}$$

$$-6 \leq b$$

