

Solving Inequalities WS #1

Key

Solve each inequality. Show all required work. Make sure your variable is on the left in your final answer.

$$1) -2 - 5x < -57$$

$$-5x < -55$$

$$\frac{-5x}{-5} < \frac{-55}{-5}$$

÷ by negs  
flip symbol

$$x > 11$$

$$2) 7n + 2 > 23$$

$$7n > 21$$

$$\frac{7n}{7} > \frac{21}{7}$$

÷ by positive,  
don't flip symbol

$$n > 3$$

$$3) -2 + 6a \leq 4$$

$$6a \leq 6$$

$$\frac{6a}{6} \leq \frac{6}{6}$$

$$a \leq 1$$

$$4) 9 - 10n > 189$$

$$-10n > 180$$

$$\frac{-10n}{-10} > \frac{180}{-10}$$

$$n < -18$$

$$5) 8p - 3 \leq 157$$

$$8p \leq 160$$

$$\frac{8p}{8} \leq \frac{160}{8}$$

$$p \leq 20$$

$$6) 6 - 5v \geq 71$$

$$-5v \geq 65$$

$$\frac{-5v}{-5} \geq \frac{65}{-5}$$

$$v \leq -13$$



Solving Ineqs. w/ #1, cont.

$$7) -b - 3 \leq 1 + 3$$

$$-1b \leq 4$$

$$\frac{-1b}{-1} \leq \frac{4}{-1}$$

$$\boxed{b \geq -4}$$

$$8) -6 - 3k < -51$$

$$-3k < -45$$

$$\frac{-3k}{-3} < \frac{-45}{-3}$$

$$\boxed{k > 15}$$

$$9) -10 - 2k > -48$$

$$-2k > -38$$

$$\frac{-2k}{-2} > \frac{-38}{-2}$$

$$\boxed{k < 19}$$

$$10) -9 + 2x < 25$$

$$2x < 34$$

$$\frac{2x}{2} < \frac{34}{2}$$

$$\boxed{x < 17}$$

$$11) -9(v-6) > -9$$

$$-9v + 54 > -9$$

$$-9v > -63$$

$$\frac{-9v}{-9} > \frac{-63}{-9}$$

$$\boxed{v < 7}$$

$$12) 2(-7+n) > -40$$

$$-14 + 2n > -40$$

$$2n > -26$$

$$\frac{2n}{2} > \frac{-26}{2}$$

$$\boxed{n > -13}$$