

W-A1 Algebra 1 Week 14

12/13



1.) $x \geq 3$
 BIGGER

$x > 3$
 and/or
 $x = 3$

$> <$
 $\geq \leq$

2.) $-4 < x$
 $x > -4$ BIGGER

3.) $8 \geq x$
 smaller

4.) $x < 5$

$x + 4 > 9$

$x + 4 = 9$
 $-4 \quad -4$
 $x = 5$

$x + 4 > 9$
 $-4 \quad -4$
 $x > 5$

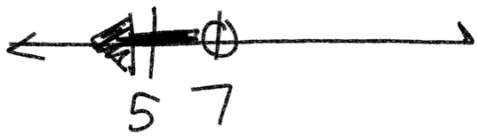
$-9x \geq -27$

$\frac{-9x}{-9} \geq \frac{-27}{-9}$

flip! $x \leq 3$

$$1.) \frac{5x}{5} < \frac{35}{5}$$

$$\{ x < 7 \}$$



$$2.) \left(\frac{x}{-2} \right) \geq (7)(-2)$$

$$-21 \leq x \leq -14$$

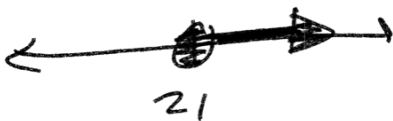
multiply by a negative



$$3.) 18 \leq x - 3$$

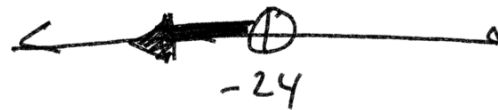
$$+3 \quad +3$$

$$21 \leq x$$



$$4.) \left(\frac{x}{4} \right) < (-6)4$$

$$x < -24$$



$$-21 \geq 4x - 2 + 5$$

$$-21 \geq 4x + 3$$

$$\frac{-24}{4} \geq \frac{4x}{4}$$

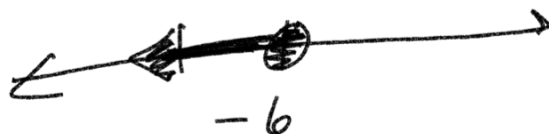
$$-6 \geq x$$

$$-21 = 4x - 2 + 5$$

$$-21 = 4x + 3$$

$$\frac{-24}{4} = \frac{4x}{4}$$

$$-6 = x$$



$$-7x + 5 - 3x < -5$$

$$-7x + (-3x)$$

$$\begin{array}{r} \downarrow \quad \downarrow \\ -10x + 5 < -5 \\ \quad -5 \quad -5 \end{array}$$

$$\frac{-10x}{-10} < \frac{-10}{-10}$$

divided by
a negative $x > 1$

flip!



$$-4 + 3x \geq 2x + 8$$

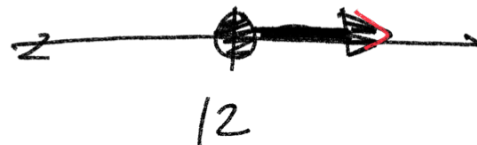
+4

+4 add

$$3x \geq 2x + 12$$

$$\begin{array}{r} -2x \quad -2x \\ \hline \end{array} \text{ subtract}$$

$$\boxed{x \geq 12}$$



$$8 - 5x < 12 - 7x$$

$$8 - 5x < 12 - 7x$$

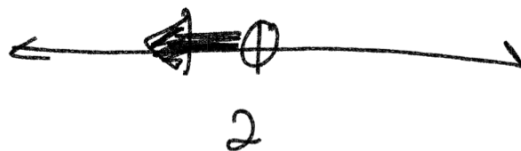
-8
 -8

$$-5x < 4 - 7x$$

$+7x$
 $+7x$

$$\frac{2x}{2} < \frac{4}{2}$$

$$x < 2$$



$$-3(4x + 3) \geq -105$$

$$-12x - 9 \geq -105$$

$+9$
 $+9$

$$-12x \geq -96$$

$\div -12$
 $\div -12$

fl.p!

$$x \leq 8$$



$$-3(4x + 3) \geq -105$$

$\div -3$
 $\div -3$

$$4x + 3 \leq 35$$

-3
 -3

$$\frac{4x}{4} \leq \frac{32}{4}$$

$$x \leq 8$$

$$8(5 - 2x) < 4x + 4$$

$$40 - 16x < 4x + 4$$

$$\begin{array}{r} -40 \\ -40 \end{array}$$

$$-16x < 4x - 36$$

$$\begin{array}{r} -4x \\ -4x \end{array}$$

$$\frac{-20x}{-20} < \frac{-36}{-20}$$

$$x > \frac{36}{20}$$

$$\boxed{x > \frac{9}{5}}$$

