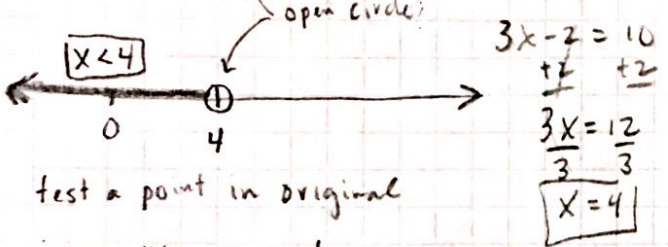


9-70) represent on a number line.

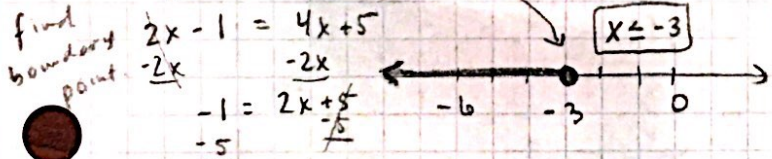
a)  $3x - 2 < 10$  find boundary point.



test a point in original inequality. Try 0!

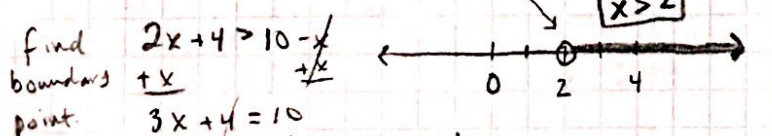
$3(0) - 2 < 10$   
 $0 - 2 < 10$   
 $-2 < 10$  true! Shade side that includes 0!

b)  $5x - 1 - 3x \geq 4x + 5$  closed



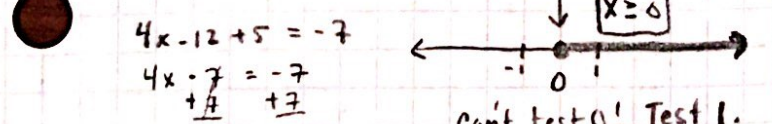
test 0!  $5(0) - 1 - 3(0) \geq 4(0) + 5$   
 $0 - 1 - 0 \geq 0 + 5$   
 $-1 \geq 5$  no!  
 False!  
 Shade other side!

c)  $2(x+2) > 10 - x$  open circle!



test 0!  
 $2(0+2) > 10 - 0$   
 $2(2) > 10$   
 $4 > 10$  no!  
 false!  
 Shade other side.

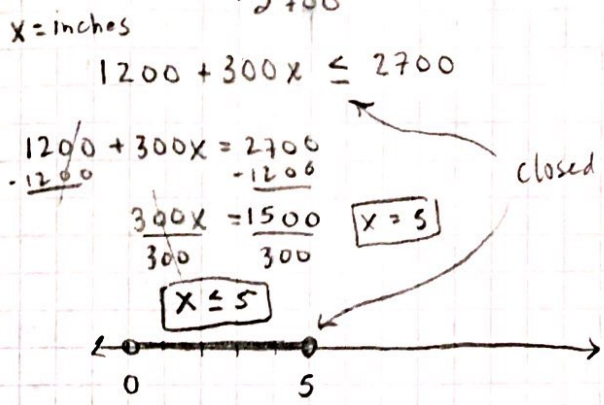
d)  $4(x-3) + 5 \geq -7$  closed



Can't test 0! Test 1.  
 $4(1-3) + 5 \geq -7$   
 $4(-2) + 5 \geq -7$   
 $-8 + 5 \geq -7$   
 $-3 \geq -7$  ✓

9-71) base fee \$1200, additional fee \$300 every inch.

Algebra can spend up to and including \$2700



test 0!  $1200 + 300(0) \leq 2700$  true!  
 $1200 + 0 \leq 2700$  ✓

★ They can order an ad up to/including 5 inches.

$0 < x \leq 5$

it would not be 0 inches or less...

9-73) Line m, intercepts (-7, 0) and (0, -2)

a) find equations of line.

x	y
-7	0
0	-2

$m = \frac{\Delta y}{\Delta x} = \frac{-2}{7}$

$y = mx + b$

$b = -2$

$y = -\frac{2}{7}x - 2$

b) Is (49, -16) on the line? How do you know?

$y = -\frac{2}{7}x - 2$   
 $-16 = -\frac{2}{7}(49) - 2$   
 $-16 = -14 - 2$  Yes!  
 $-16 = -16$  ✓ true!

Yes! It is on the line. Tested the point! →

9-74) Thui made the hypothesis

$$2n - 1 < 5 \text{ and } n + 1 \leq 2n$$

Which conclusions can she make?

Solve and graph!

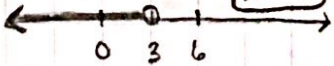
$$2n - 1 < 5$$

$$2n - 1 = 5$$

$$\begin{array}{r} +1 \\ +1 \end{array}$$

$$\frac{2n}{2} = \frac{6}{2} \quad \boxed{n=3}$$

$$\boxed{n < 3}$$



test 0!

$$2(0) - 1 < 5$$

$$0 - 1 < 5$$

$$-1 < 5 \quad \checkmark \text{ true!}$$

$\boxed{\beta}$

$$n \geq 1; n < 3$$

$$n + 1 \leq 2n$$

$$n + 1 = 2n$$

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

$$\boxed{1 = n}$$

$$\boxed{n \geq 1}$$



test 0!

$$0 + 1 \leq 2(0)$$

$$1 \leq 0 ?$$

false!

shade other side!