

### 3A Which Side Are You On?

SHOW YOUR WORK AND IN PENCIL

Name \_\_\_\_\_ Per: \_\_\_\_\_

**Objectives:** Solve and graph inequalities.

Due: Oct 4<sup>th</sup> / Oct 5<sup>th</sup>

**Solve and graph the following inequalities.**

1.  $-5(y + 1) \geq 25 + y$

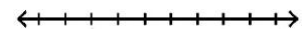
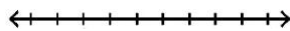
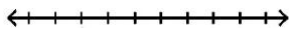
3.  $2(a - 1) + 8 > 4a + 6$

5.  $-2(a - 1) + 8 > 4(a + 6)$

Solution Set: \_\_\_\_\_

Solution Set: \_\_\_\_\_

Solution Set: \_\_\_\_\_



2.  $\frac{1}{2}x > 14 + x$

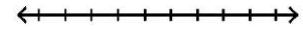
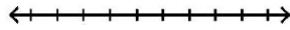
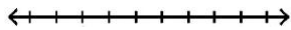
4.  $3 + (x + 3) < -9 + 4x$

6.  $3 + x + 3 < -(9 + 4x)$

Solution Set: \_\_\_\_\_

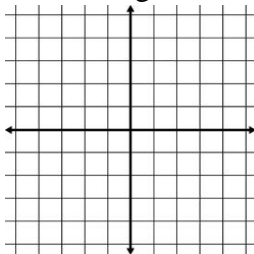
Solution Set: \_\_\_\_\_

Solution Set: \_\_\_\_\_

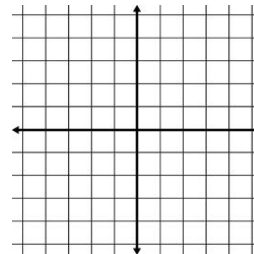


7. Graph #1 and #2 on the given coordinate planes, below.

a. .



b.



8. Explain when to use an open circle or a closed circle when graphing inequalities on a number line.

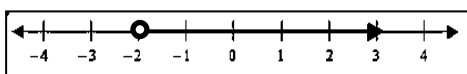
Open Circle: \_\_\_\_\_ Closed Circle: \_\_\_\_\_

9. When graphing one-variable inequalities, explain how you know which way the arrow goes (shading).

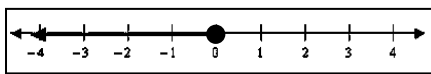
\_\_\_\_\_

10. Write an inequality for the following number line graphs

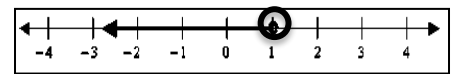
a. \_\_\_\_\_



b. \_\_\_\_\_



c. \_\_\_\_\_



Solve the following inequalities for s.

11.  $-8s < -6(8b - 4)$

12.  $s + 4w \geq -2s + 3(2w + 5)$

13.  $5 - (7 + 2s) - 2d > d + 10$

Find the **slopes**, **intercepts** and **equations** of the lines that pass through the given points.

14. (4, 6) and (10, -12)

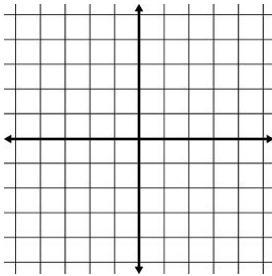
15. (-3, 5) and (4, 19)

- a. y-intercept: \_\_\_\_\_
- b. Slope \_\_\_\_\_
- c. x-intercept: \_\_\_\_\_
- d. Equation: \_\_\_\_\_

- e. y-intercept: \_\_\_\_\_
- f. Slope: \_\_\_\_\_
- g. x-intercept: \_\_\_\_\_
- h. Equation: \_\_\_\_\_

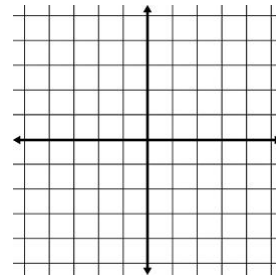
Given the following information graph the line.

16. x-intercept is -3 and y-intercept is 2.



- i. y-intercept: \_\_\_\_\_
- j. Slope \_\_\_\_\_
- k. x-intercept: \_\_\_\_\_
- l. Equation: \_\_\_\_\_

17.  $6x - 4y = 12$



- m. y-intercept: \_\_\_\_\_
- n. Slope \_\_\_\_\_
- o. x-intercept: \_\_\_\_\_
- p. Equation: \_\_\_\_\_
- q. How would the graph change if instead of = it was <?

18. The Yellow Cab Taxi charges \$5.00 when you enter his taxi in addition to \$3.50 for each mile he drives you. Show your work in the following ways.

a. Table

# of miles	Total cost
0	
10	
20	

b. Equation

\_\_\_\_\_

c. Graph. Label your graph. (x-axis by 2 miles and y-axis by \$2.00)

