

1)

SAT problem

$$2x - 1 > 5 \text{ and } 2x - 1 < 9$$

X

A

$\frac{9}{2}$

B

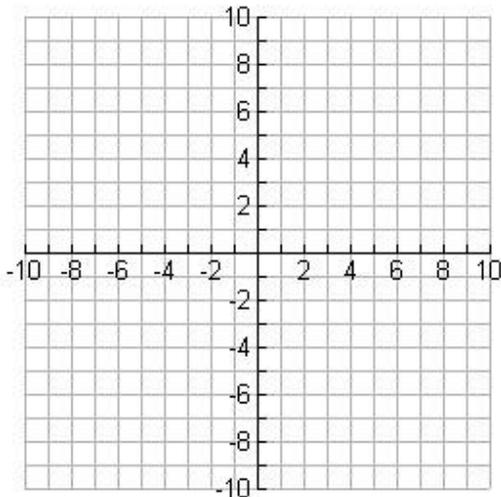
Which statement is true?

- (A) A is greater than B.
 (B) B is greater than A.
 (C) A and B are equal.
 (D) There is not enough information to tell which is greater.

3) Graph the two linear equations below.

$$y = \frac{2}{3}x + 3$$

$$y = \frac{2}{3}x - 4$$



What do you notice about the graphed lines?

How could you have determined this before graphing them?

- 2) Create two sequences below, one arithmetic and one geometric. Begin by first choosing a common difference and a common ratio for each sequence.

arithmetic sequence: common difference = _____

geometric sequence: common ratio = _____

- 4) Simplify each expression below by combining like terms.

$$x^2 + 3x - (x - 9)$$

$$-2b + 7c + 15b - 3c^2 - 9c$$

$$12 - 2d^3 + 7d - 5d^2$$

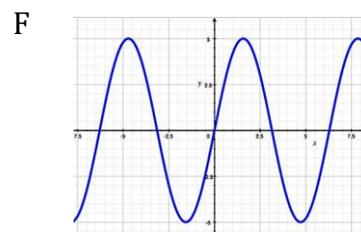
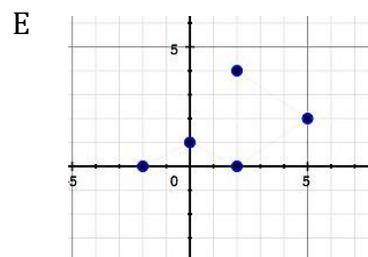
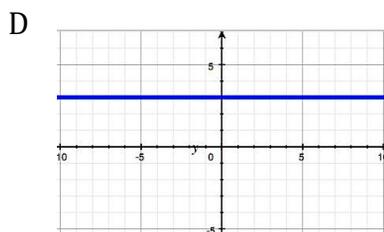
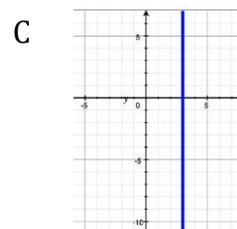
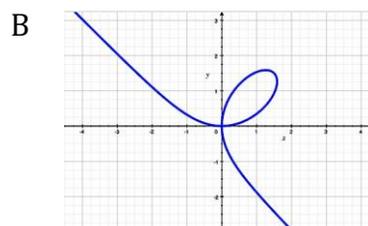
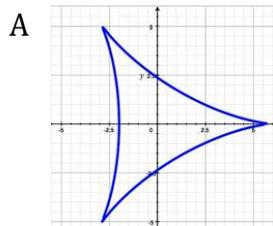
5) Without graphing, identify the x-intercept, y-intercept, and slope of each of the linear equations below.

$$y = 3x - 2$$

$$y = \frac{1}{5}x + 5$$

$$y = 5x - 3$$

6) Which, if any, of the graphs below are functions?

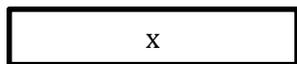


7) Problem deleted.

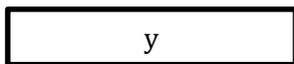
8)

SAT problem

$$\frac{x}{2} = \frac{4}{y} = 4$$



A



B

Which statement is true?

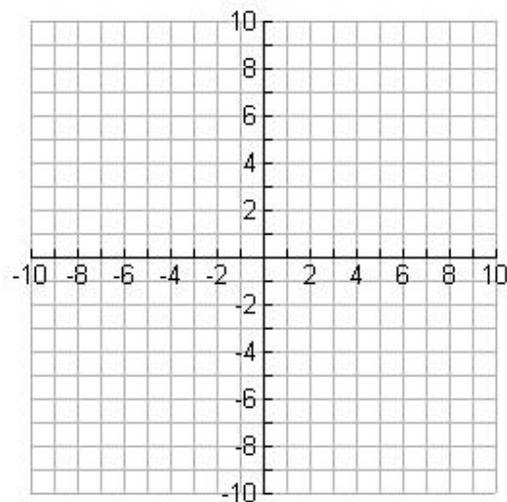
- (A) A is greater than B.
- (B) B is greater than A.
- (C) A and B are equal.
- (D) There is not enough information to tell which is greater.

10) Identify the y-intercept and slope of the linear equation below. Then, graph the line.

$$y = -\frac{3}{2}x + 1$$

b =

m =



Is this linear relationship proportional?
Why or why not?

What is the slope of a line perpendicular to the one you graphed?

9) What is this form of a linear equation called?

$$y = mx + b$$

What does m represent?

What does b represent?

Write a linear equation in this form where $m = 0$.

If you graphed this line, what would it look like?

Write a linear equation in this form where $b = 0$.

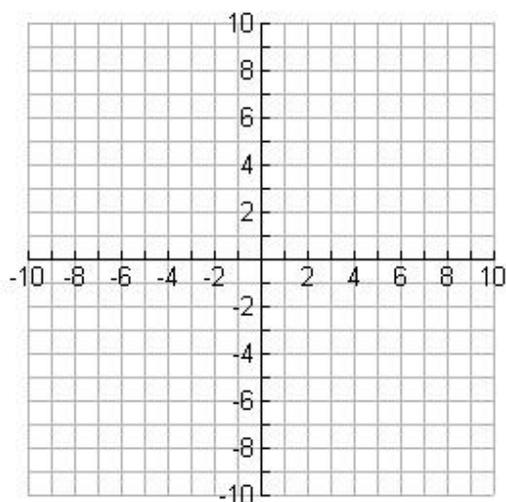
What can you say about this linear function?

11) Identify the y-intercept and slope of the linear equation below. Then, graph the line.

$$y = -8$$

b =

m =

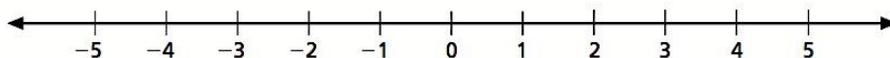


12) What is the rule for this sequence in terms of n ?

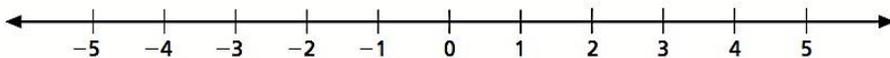
Term number (n)	1	2	3	4	5	6	n
Term (t)	17	13	9	5	1	-3	

13) The solution set of three inequalities are expressed below using interval notation. Write an inequality to match each solution set, and graph these inequalities.

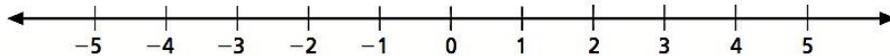
$(-\infty, 3]$



$(-1, \infty)$



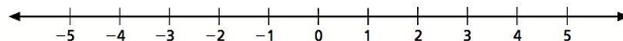
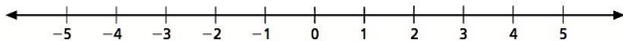
$[0, \infty)$



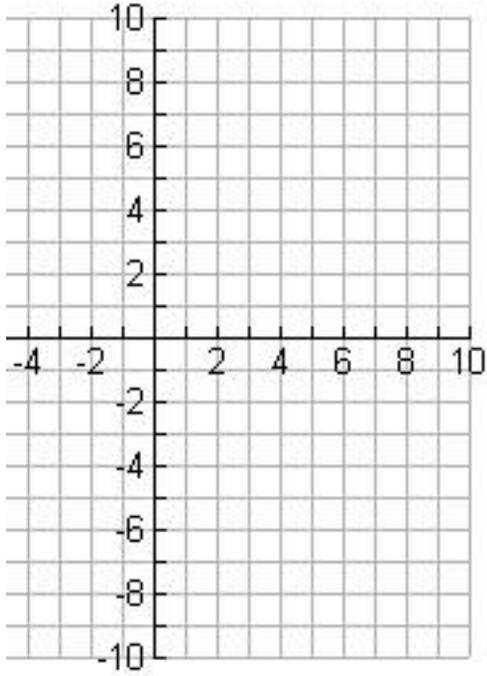
14) Solve and graph each inequality below.

$$7x + 4 \geq -10$$

$$-\frac{x}{3} \leq 1$$



- 15) Plot the points $A(1, 2)$, $B(5, 9)$, $C(9, 2)$, $D(5, -5)$. Draw all possible line segments connecting these points. Label each line segment with its slope. What type of quadrilateral is formed? What do you notice about the slopes of the opposite sides of this quadrilateral?



- 16) Suppose gasoline costs \$2.76 per gallon. You can purchase a car wash at the gas station for \$3. The graph of the equation for the cost of gasoline and a car wash is shown below. Write the equation in slope-intercept form for the line shown on the graph.

