

Algebra I

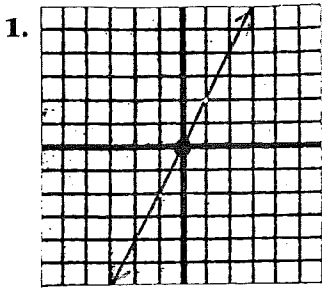
5.2 Worksheet #3

Graphs of Linear Functions

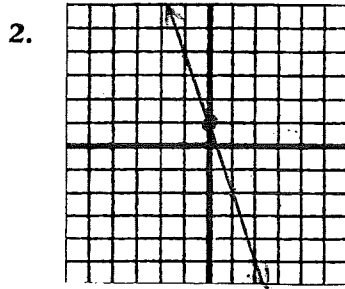
NAME: _____

DATE: _____ HOUR: _____

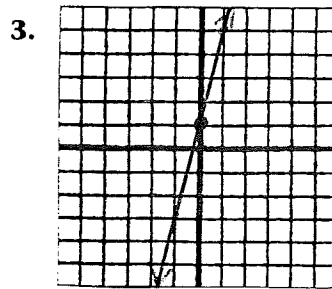
Choose the equation that matches the graph shown. Write the letter of the equation on the blanks below.



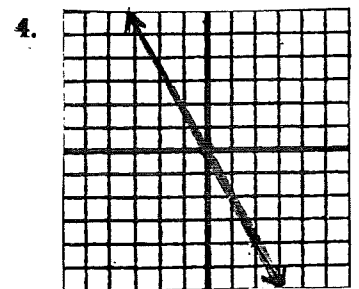
- G $y = 2x + 0$
- M $y = 2x - 1$
- O $y = -2x + 0$
- E $y = -2x + 1$



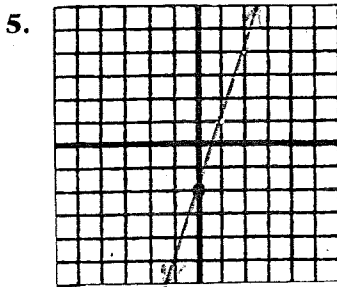
- S $y = -3x$
- E $y = 3x$
- R $y = -3x + 1$
- T $y = 3x - 1$



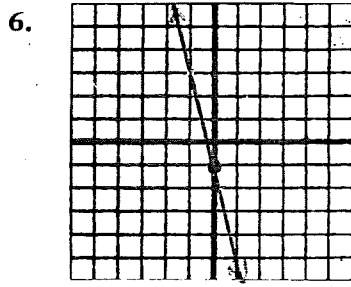
- N $y = 4x$
- A $y = 4x + 1$
- E $y = 4x - 1$
- P $y = -4x - 1$



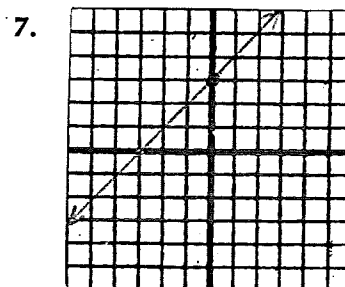
- R $y = 2x$
- P $y = -2x$
- E $y = 2x + 3$
- T $y = -2x + 3$



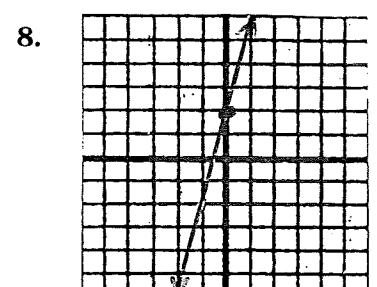
- T $y = -3x$
- A $y = -3x + 2$
- R $y = 3x$
- H $y = 3x - 2$



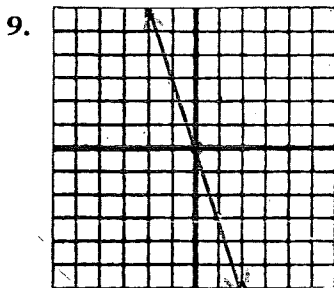
- N $y = 4x$
- E $y = -4x + 1$
- O $y = -4x - 1$
- S $y = 4x + 1$



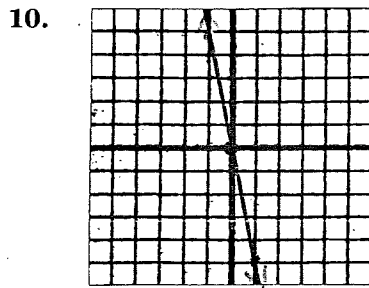
- K $y = x - 3$
- L $y = -x - 3$
- F $y = x + 3$
- E $y = -x + 3$



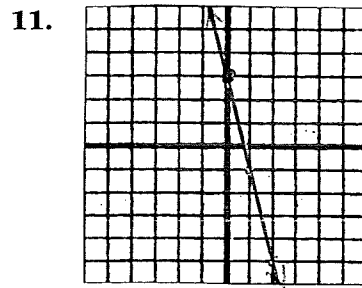
- N $y = -2x + 4$
- S $y = 2x + 4$
- A $y = 4x + 2$
- T $y = -4x + 2$



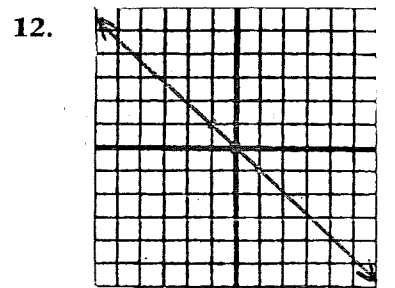
- N $y = 3x$
- L $y = -3x$
- E $y = 3x + 1$
- R $y = -3x + 1$



- M $y = 5x$
- I $y = -5x$
- R $y = 5x + 2$
- S $y = -5x - 2$



- S $y = 4x$
- R $y = -4x$
- T $y = 4x + 3$
- N $y = -4x + 3$



- N $y = x$
- E $y = -x$
- P $y = x + 2$
- T $y = -x + 2$

1

2

3

4

5

6

7

8

9

10

11

12

Find the slope of \overline{AB} for the given points.

1. A(1, 1), B(5, 4)

2. A(5, 7), B(9, 8)

3. A(3, 6), B(6, 8)

4. A(-2, -3), B(9, 3)

5. A(-4, -2), B(5, 1)

6. A(4, 3), B(1, 9)

7. A(5, 2), B(4, 7)

8. A(-5, -2), B(4, -1)

9. A(7, -1), B(-5, -4)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

In the equation $y = mx + b$, what is determined by the

m: _____

b: _____

Give the slope and the y-intercept of the line with the given equation.

1. $y = \frac{1}{3}x + 6$

slope = _____

y-intercept = _____

2. $y = \frac{3}{4}x + 5$

slope = _____

y-intercept = _____

3. $y = -\frac{4}{5}x + 9$

slope = _____

y-intercept = _____

4. $y = 3x$

slope = _____

y-intercept = _____

5. $y = -\frac{2}{3}x - 7$

slope = _____

y-intercept = _____

6. $y = x + 5$

slope = _____

y-intercept = _____

Write an equation for the line with the given slope, m , and y-intercept, b .

7. $m = 3, b = 5$

$y = 3x + 5$

8. $m = -4, b = -6$

9. $m = \frac{2}{3}, b = -1$

Describe the graph of each line.

10. $y = \frac{2}{3}x + 5$

slope = _____

y-intercept = _____

11. $y = -\frac{4}{5}x + 3$

slope = _____

y-intercept = _____

12. $y = -\frac{3}{4}x - 4$

slope = _____

y-intercept = _____

13. $y = 2x + 4$

slope = _____

y-intercept = _____

14. $y = 4x - 2$

slope = _____

y-intercept = _____

15. $y = -3x + 2$

slope = _____

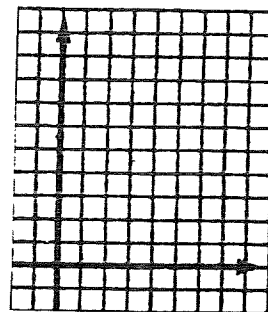
y-intercept = _____

16. Plot the points $A(1, 1)$, $B(4, 7)$, and $C(4, 10)$. Connect A and B . Connect A and C . Which segment appears to have the steeper slope, \overline{AB} or \overline{AC} ?

Justify your conclusion by comparing the slope of \overline{AB} with the slope of \overline{AC} .

slope of \overline{AB} =

slope of \overline{AC} =



Determine the value(s) of a so that \overline{AB} has the given slope.

17. $A(3, 4), B(a, 7)$; slope = $\frac{3}{5}$

$\frac{7-4}{a-3} = \frac{3}{5}$ $a = \square$

18. $A(0, -3), B(4, a)$; slope = $\frac{5}{4}$

$\frac{a-(-3)}{4-0} = \frac{5}{4}$ $a = \square$