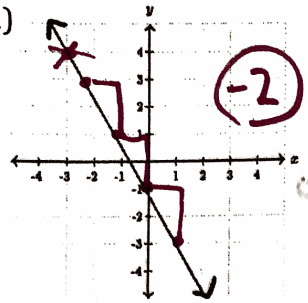
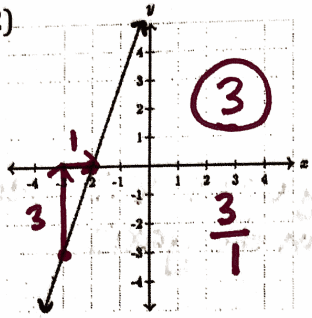
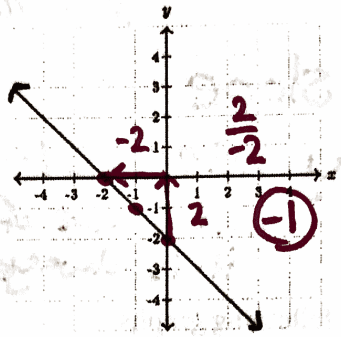
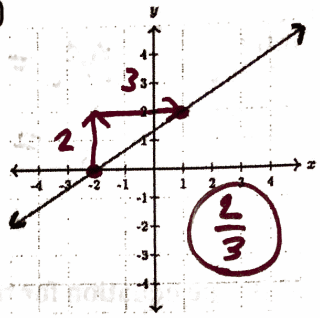
Slope Intercept Form Day 1

Find the slope by finding your own points on the graph

1) 

2) 

3) 

4) 

Find slope from two points $\frac{y_2 - y_1}{x_2 - x_1}$

1) (5, -3) and (-10, 9)

$\frac{9-(-3)}{-10-5} = \frac{12}{-15} = \frac{-4}{5}$

2) (6, 5) and (6, 12)

$\frac{12-5}{6-6} = \frac{7}{0}$ undefined

3) (-1, 2) and (-2, -7)

$\frac{-7-2}{-2-(-1)} = \frac{-9}{-1} = 9$

Find slope from a table

1)

x	y	
-2	-5	+3
-1	-2	+3
0	1	+3
1	4	+3
2	7	

+1 +1 +1 +1

3

*must be the same when simplified every time to be linear

2)

x	y	
-2	9	-2
-1	7	-2
0	5	-2
1	3	-2
2	1	

+1 +1 +1 +1

-2

3)

x	y	
-4	9	-2
-2	7	-2
0	5	-2
2	3	-2
4	1	

+2 +2 +2 +2

-1

4)

x	y	
-4	10	+10
-2	20	+10
0	30	+10
2	40	+10
4	50	

+2 +2 +2 +2

5

5)

x	y	
-10	-20	-20
-5	-40	-20
0	-60	-20
5	-80	-20
10	-100	

+5 +5 +5 +5

-4

6)

x	y	
-3	10	+2
-6	12	+2
-9	14	+2
-12	16	+2
-15	18	

-3 -3 -3 -3

$-\frac{2}{3}$

Slope Intercept Form

$$y = mx + b$$

Notes:

m = slope

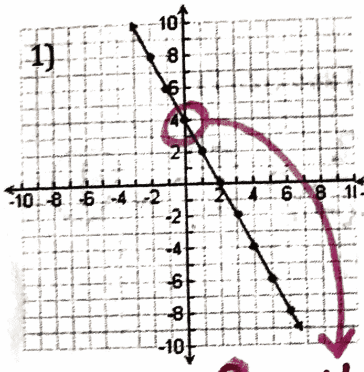
b = y intercept

the value of y when x is zero

it is always on the y axis

Write the equation for the following graphs:

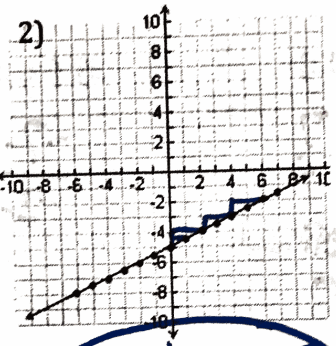
1)



$y = -2x + 4$

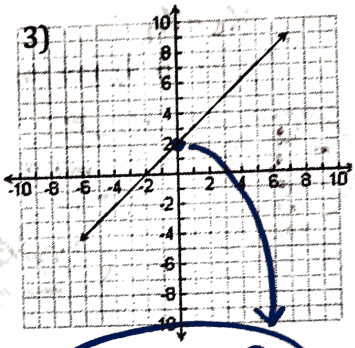
slope

2)



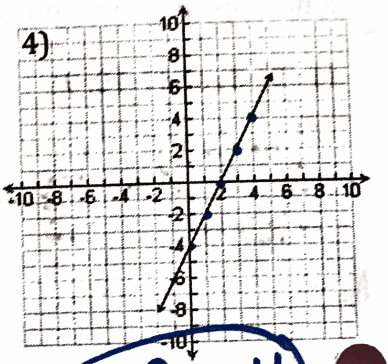
$y = \frac{1}{2}x - 5$

3)



$y = x + 2$

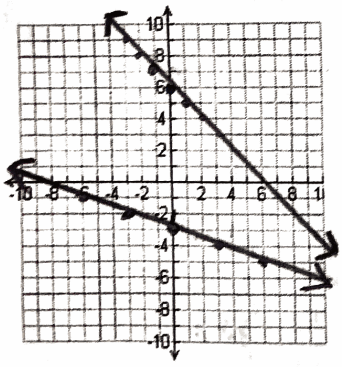
4)

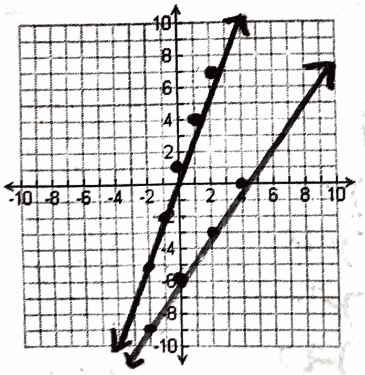


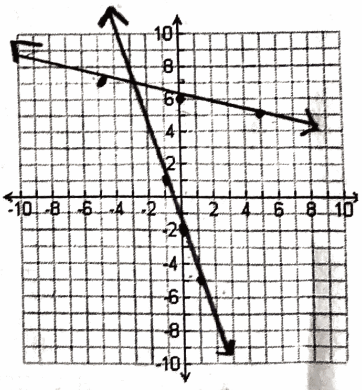
$y = 2x - 4$

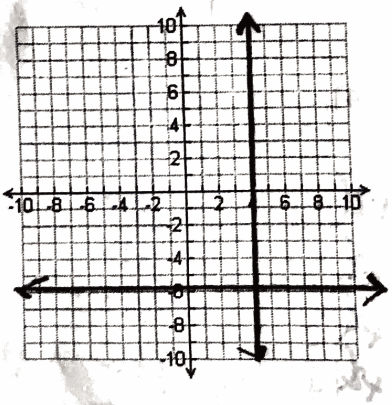
Draw each graph. Use each coordinate plane for two linear functions.

$\frac{1}{-1}$









slope: -1 y-intercept: 6

1) $y = -x + 6$

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

3) $y = 3x + 1$

4) $y = \frac{3}{2}x - 6$

5) $y = -3x - 2$

6) $y = -\frac{1}{5}x + 6$

7) $x = 4$

8) $y = -6$

$y = 0x - 6$

Slope Intercept Form HW Day 1

Name_____

1. Find the slope through points (-5, 14) and (-1, 2)

2. Find the slope through points (-5, 6) and (8, 6)

$$h = 3a + 28.6$$

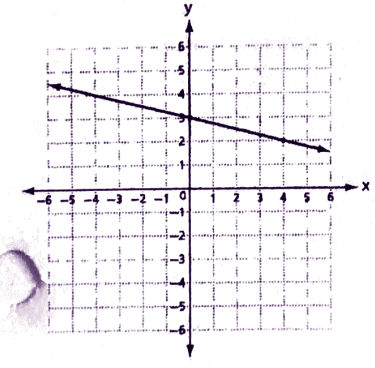
3. A pediatrician uses the model above to estimate the height h of a boy, in inches, in terms of the boy's age a, in years, between the ages of 2 and 5. Based on the model, what is the estimated increase, in inches, of a boy's height each year?

A) 3
B) 5.7
C) 9.5
D) 14.3

4. Which equation describes the line with a slope of 5 and y-intercept of –3?

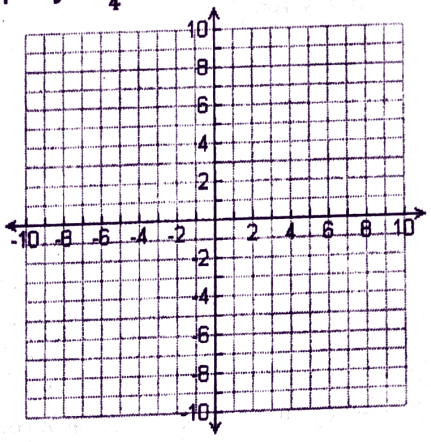
A $y = -3x + 5$ C $y = 5x - 3$
B $y = 3x - 5$ D $y = 5x + 3$

5. What is the equation in slope intercept form for the graph?

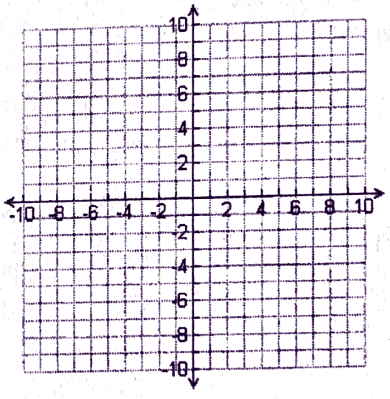


Equation:_____

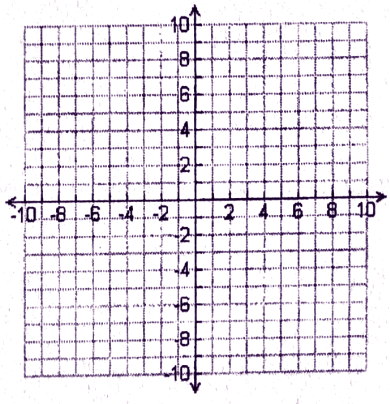
6. **Graph:** $y = \frac{1}{4}x - 6$



7. **Graph:** $y = -2x + 3$



8. **Graph:** $y = -\frac{2}{3}x + 5$



9. A local club charges an initial membership fee as well as a monthly cost. The cost is a linear function of the number of months of membership.

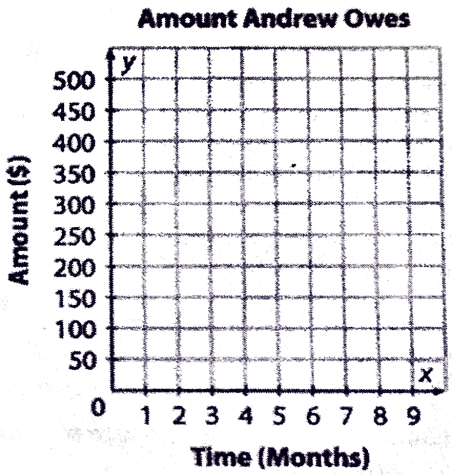
Write a linear function in slope intercept form to describe this situation.

Membership Cost	
Time (months)	Cost ($)
0	100
3	277
6	454

10. Andrew wants to buy a smart phone that costs $500. His parents will pay for the phone then Andrew will pay them $50 each month until the entire amount is repaid.

a. Write a linear function in slope intercept form to describe this situation.

b. What does the slope represent? What does the y intercept represent?



c. Graph this function on the graph to the right.

CHALLENGE: Write an equation of a line in slope intercept form that passes through the points (3, 4) and (7, 8)