

# 1C Interception

NO WORK, NO CREDIT. PENCIL ONLY.

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

**Objective:** Determine x- and y- intercepts

Due: August 30<sup>th</sup> / August 31<sup>st</sup>

**Find the y-intercept from the tables: Don't forget to list as a coordinate point. For EC, find x-intercepts.**

1.

X	Y
1	-3
4	9
0	-7

2.

X	Y
3	7
6	13
7	15

3.

X	Y
5	23
4	21
3	19

**EXAMPLE:**

X	Y
2	5
-2	13
-6	21

-4 < > 8

Slope = -2  
 $y = -2x + b$   
 $5 = -2(2) + b$   
 $5 = -4 + b$   
 $+4 = +4$   
 $9 = b$   
 y-intercept = (0, 9)

**Find the slope and intercepts from the following points and then write the equation of the line that goes through the two given points.**

EX: (0, 3) and (2, 7)

4. (3, 6) and (0, 8)

5. (3, 7) and (6, 13)

6. (4, 8) and (2, 5)

X	Y
0	3
2	7

Slope:  $\frac{2}{1}$  or 2

y-intercept: (0, 3)

x-intercept:  $(-\frac{3}{2}, 0)$

Eq:  $y = 2x + 3$

Slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

x-intercept: \_\_\_\_\_

Eq: \_\_\_\_\_

Slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

x-intercept: \_\_\_\_\_

Eq: \_\_\_\_\_

Slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

x-intercept: \_\_\_\_\_

Eq: \_\_\_\_\_

**Find the equation from the given point and slope.**

EX: Slope = 2 & point (6, 1)

$$1 = 2(6) + b$$

$$1 = 12 + b, \text{ so } b = -11$$

$$y = 2x - 11$$

7.  $m = \frac{1}{2}$  & point (4, -2)

8.  $m = -5$  & point  $(\frac{1}{5}, 8)$

**Find the y-intercept and x-intercept of the following equations:**

9.  $y = -18 - 2x$

y-intercept : \_\_\_\_\_

x-intercept : \_\_\_\_\_

10.  $3x + 6 = y$

y-intercept : \_\_\_\_\_

x-intercept : \_\_\_\_\_

11.  $3x + 5y = -15$

y-intercept : \_\_\_\_\_

x-intercept : \_\_\_\_\_

12.  $4x - 12y = 16$

y-intercept : \_\_\_\_\_

x-intercept : \_\_\_\_\_

13.  $8y + 6x = 2$

y-intercept: \_\_\_\_\_

x-intercept: \_\_\_\_\_

**EXAMPLE:**  $6x + y = -3$

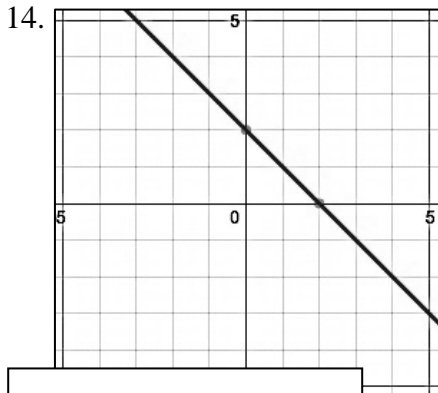
y-intercept is  
when  $x = 0$ ,  
 $6(0) + y = -3$

$y = -3$   
y-int: (0, -3)

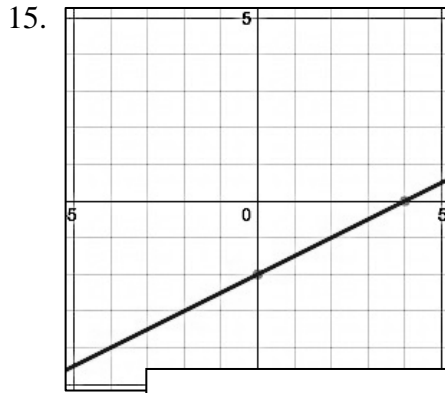
x-intercept is  
when  $y = 0$ ,  
 $6x + 0 = -3$

$6x = -3, x = -\frac{1}{2}$   
x-int:  $(-\frac{1}{2}, 0)$

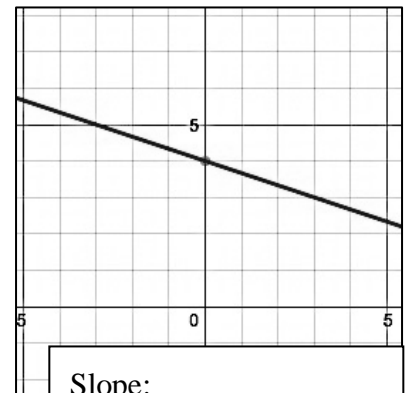
Find the slope, y-intercept and equation of the line in the following graphs:



Slope: \_\_\_\_\_  
 y-int: \_\_\_\_\_  
 x-int: \_\_\_\_\_  
 Eq: \_\_\_\_\_

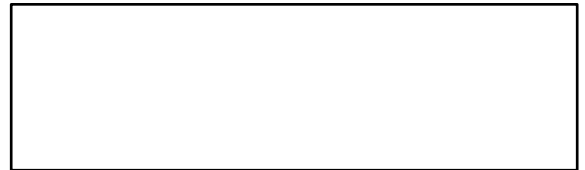


Slope: \_\_\_\_\_  
 y-int: \_\_\_\_\_  
 x-int: \_\_\_\_\_  
 Eq: \_\_\_\_\_



Slope: \_\_\_\_\_  
 y-int: \_\_\_\_\_  
 x-int: \_\_\_\_\_  
 Eq: \_\_\_\_\_

17. Aaron and Xavier are going to meet at the Westlake tennis court. They leave their houses at the same time. Xavier jogs 300 meters to the court and passes Aaron's house after 100 m. Xavier's jogging rate is 4 meters per second. Aaron's walking rate is 2 meters per second. **Draw a map to show the houses and the court** (use box to right).



a. Fill in the two tables to show their distance from the tennis courts at any given time.

Xavier				Aaron		
Time (secs)	Pattern			Dist (meters)	Shorthand	
		300		0		
		292				
				200 - 2 - 2 - 2		
		D		s		

- b. Write the starting coordinates for Xavier \_\_\_\_\_ Aaron \_\_\_\_\_
- c. Graph the data your tables on the grid. What are the two rates of change shown on the graph? \_\_\_\_\_
- d. What is the unit walking rate for Xavier? \_\_\_\_\_ Aaron? \_\_\_\_\_
- e. Xavier's line is steeper on the graph. Explain what this means?  
 \_\_\_\_\_
- f. How can you measure the rates of change on the graph?  
 \_\_\_\_\_
- g. How many seconds will it take them to reach the court?  
 Xavier \_\_\_\_\_ Aaron \_\_\_\_\_
- h. What does the x-intercept mean? \_\_\_\_\_  
 What is Aarons? \_\_\_\_\_ What is Xavier? \_\_\_\_\_

