Find slope and y-intercepts:

#1 Table

x	-y
1	1
3	5
5	9

2 < > 4

$m = \frac{2}{1}$ yint (0, -1)

#2. points

(-2, 7) & (-5, 6)

x	y
-2	7
-5	6

-3 < > -1

$m = \frac{-1}{-3} = \frac{1}{3}$

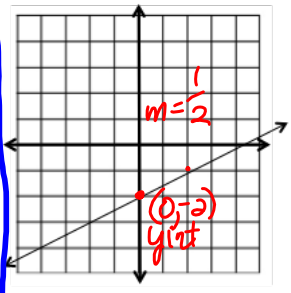
$y = \frac{1}{3}x + b$

$7 = \frac{1}{3}(-2) + b$

$7\frac{2}{3} = b$

yint $(0, 7\frac{2}{3})$

#3 graph



Write the equations...

#1 $y = 2x - 1$

#2 $y = \frac{1}{3}x + 7\frac{2}{3}$

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

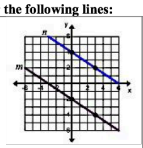
Aug 18-1:20 PM

1B Slippery Slopes
NO WORK, NO CREDIT. PENCIL ONLY.

Name_____ Per: _____

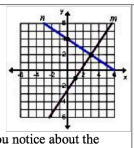
Find slope for the following lines:

1. line *n*: _____ line *m*: _____



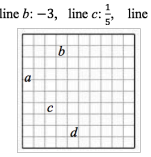
What do you notice about the slopes of these two lines?

2. line *n*: _____ line *m*: _____



What do you notice about the slopes of these two lines?

3. **Graph** slopes from the corresponding points. line *a*: $\frac{1}{3}$, line *b*: −3, line *c*: $\frac{1}{5}$, line *d*: 2



4. Draw a line that has the same relationship to line m for #1 and #2 above.

5. 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 positions from the tennis courts at any given time.

Xavier

Time (seconds)	Pattern		
		300	
		292	
		D	

Aaron

		Dist (meters)	Shorthand
0			
	200 – 2 – 2 – 2		
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? _____ _____

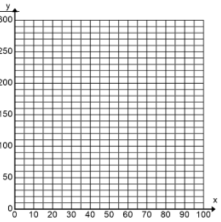
d. Write & label the unit walking rate for Xavier? _____ Aaron? _____

e. Xavier's line is steeper on the graph. Explain what this means? How can you measure the rates of change on the graph?

_____

f. How many seconds will it take them to reach the court?
Xavier _____ Aaron _____

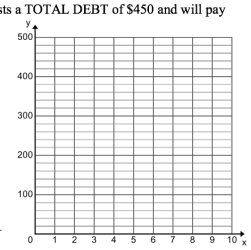
g. What's the x-intercept for Xavier _____ Aaron _____
What does it mean? _____



Aug 30-7:34 AM

6. The Nielson family decides to buy a plasma screen HDTV that costs a TOTAL DEBT of $450 and will pay $50 a week.

	Pattern	Debt *(D)*	
		450	
w			



a. Fill in the table to show the money **owed** each month.
b. Graph the table information and label the axes.
c. Write an equation that represents the relationship between the amount the Nielson family still owes and the number of weeks after the purchase. _____
d. Explain what information each of the numbers and variables in your equation represents.
D is: balance of the debt at any given week. *w* is: _____
450 is: _____ 50 is: _____
e. List the *x*- and *y*-intercepts of the graph for this payment plan? **Explain** what they mean in the story.
x-intercept (, 0)_____
y-intercept (0,) _____
f. How can you tell from a table if the slope is negative? _____
g. How can you tell from a graph if the slope is negative?_____
h. How can you tell from an equation if the slope is negative? _____

Find the slopes for the following tables and graphs. For the graphs, also find the intercepts.

7. a

X	Y
–3	–2
2	–12
–10	12

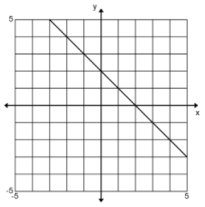
Slope: _____

b.

X	Y
–5	4
1	22
4	31

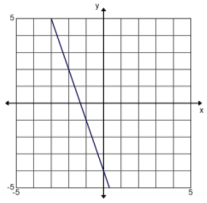
Slope: _____

c.



Slope: _____
y-intercept: _____
x-intercept: _____
EC. Equation: _____

d.



Slope: _____
y-intercept: _____
x-intercept: _____
EC. Equation: _____

Aug 30-7:34 AM

Take a look at SM1 Term 1 Study Guide

Aug 30-7:35 AM

Intercepts

y-intercept

x-intercept

Aug 29-3:38 PM

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

X	Y
2	5
–2	13
–6	21

-4 (change in X) ; 8 (change in Y)

$m = \frac{8}{-4} = \frac{-2}{1}$

2	
0	9
-2	13

(-2 and -2 written beside the column steps; 0, 9 circled, labeled "yint")

$m = -2$ or $\frac{-2}{1}$

yint (0, 9)

Aug 30-11:11 AM

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

(0, 1) and (2, 7)

x	y
0	1
2	7

$2 < 6$

$m = \frac{6}{2} = \frac{3}{1}$

Slope: $\frac{3}{1}$

y-intercept: $(0, 1)$

x-intercept: $(-\frac{1}{3}, 0)$

Eq: $y = 3x + 1$

x int $\left(-\left(\frac{b}{m}\right), 0\right)$

$\left(-\left(\frac{1}{3}\right), 0\right)$

$\left(-\frac{1}{3}, 0\right)$

Aug 30-11:16 AM

Find the equation from the given point and slope.

Slope = 2 & point (6, 1)

$y = 2x + b$

$1 = 2(6) + b$

$1 = 12 + b$

$-11 = b$

$y = 2x - 11$

Aug 30-11:18 AM

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

$6x + y = -3$

$-6x \quad -6x$

$y = -6x - 3$

$0 = -6x - 3$

$3 = -6x$

$\frac{3}{-6} = x$

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

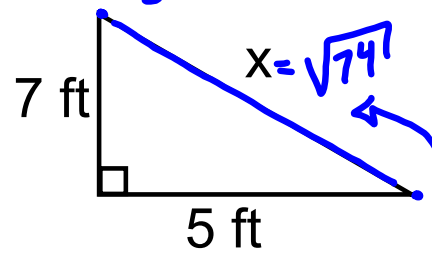
y int $(0, -3)$

x int $(-\frac{1}{2}, 0)$

Aug 30-11:21 AM

Find the **slope** of line x.

$m = -\frac{7}{5}$



$a^2 + b^2 = c^2$

$7^2 + 5^2 = x^2$

$49 + 25 = x^2$

$\sqrt{74} = \sqrt{x^2}$

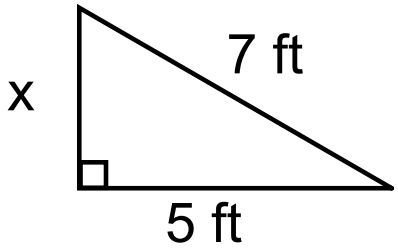
$\sqrt{74} = x$

74
2 37

What is the length of x?

$x = \sqrt{74}$

Aug 30-11:24 AM



$x^2+5^2=7^2$

$x^2=7^2-5^2$

$x^2=49-25$

$x^2=24$

$x=\sqrt{24}$

$x=2\sqrt{6}$

24 → 2, 12 → 2, 6 → 2, 3

Find the length of x.

Aug 30-12:28 PM

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

NO WORK, NO CREDIT. PENCIL ONLY.

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

1.

X	Y
2	7
0	1
5	16

2.

X	Y
1	–3
4	9
0	–7

EXAMPLE:

X	Y
2	5
–2	13
–6	21

$-4 < \quad > 8$

Slope = –2

$y = -2x + b$

$5 = -2(2) + b$

$5 = -4 + b$

$+4 = +4$

$9 = b$

y-intercept = (0, 9)

3.

X	Y
3	7
6	13
7	15

4.

X	Y
5	23
4	21
3	19

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, 1) and (2, 7) 5. (3, 6) and (0, 8) 6. (3, 7) and (6, 13) 7. (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)

$1 = 2(6) + b$

$1 = 12 + b, so, b = -11$

$y = 2x - 11$

8. m = ½ & point (4, –2)

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

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

10. $y = -18 - 2x$

y-intercept : _____
x-intercept : _____

11. $3x + 6 = y$

y-intercept : _____
x-intercept : _____

EXAMPLE: $6x + y = -3$

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

x-intercept is when y = 0, $6x + (0) = -3$, $6x = -3$, $x = -\frac{1}{2}$, $(-\frac{1}{2}, 0)$

12. $3x + 5y = -15$

y-intercept : _____
x-intercept : _____

13. $4x - 12y = 16$

y-intercept : _____
x-intercept : _____

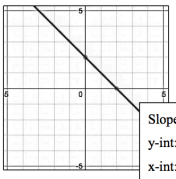
14. $8y + 6x = 2$

y-intercept: _____
x-intercept: _____

Aug 30-8:09 AM

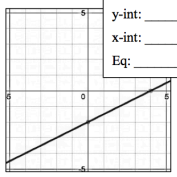
Find the slope, y-intercept and equation of the line in the following graphs:

15.



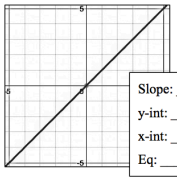
Slope: _____
y-int: _____
x-int: _____
Eq: _____

16.



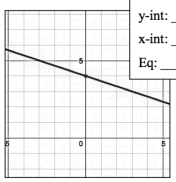
Slope: _____
y-int: _____
x-int: _____
Eq: _____

17.



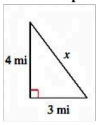
Slope: _____
y-int: _____
x-int: _____
Eq: _____

18.

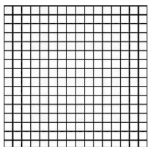


Slope: _____
y-int: _____
x-int: _____
Eq: _____

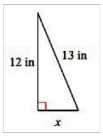
19. Find the **slope** of line x.



20. Plot #19 on the grid and **draw the squares** to **find the length** of the hypotenuse.

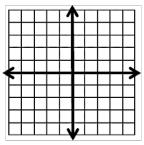


21. Find the **length** of x.

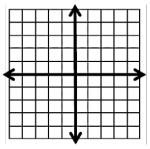


For #22 and #23, graph 2 equations each on the coordinate grids.

22. $y = -\frac{3}{2}x + 4$
$y = \frac{2}{3}x + 1$



23. $y = -2x - 2$
$y = -2x + 1$



Aug 30-8:09 AM

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