

Write your
questions here!



6.5 Graph Equations in Slope-Intercept Form

NOTES

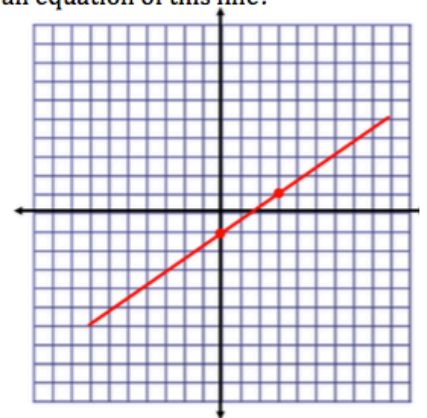
$$y = mx + b$$

Steps to find an equation in slope-intercept form.

Ex 1: What's an equation of this line?

slope = 4
y-intercept = -6

Ex 2: What's an equation of this line?



Ex 3: Find the equation of the line that goes through the two points
 $(-5, -1)$ and $(-3, -8)$.

Write your
questions here!



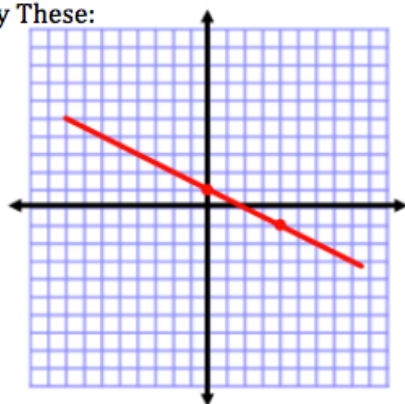
Ex #4: Write an equation for the linear function f with the given values.

$$f(0) = -2, f(4) = -3$$

i.e. Through the two points: $(0, -2)$ and $(4, -3)$

Try These:

1)



2) $(0, 4), (6, 13)$

SUMMARY:

Now,
summarize
your notes
here!



6.5 Write Linear Equations in Slope-Intercept Form

PRACTICE

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

1) slope: 2
y-intercept: 9

2) slope: -3
y-intercept: 0

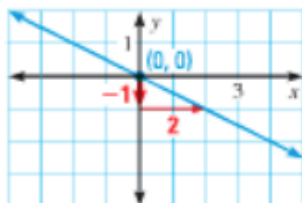
3) slope: $\frac{2}{3}$
y-intercept: -9

4) Which equation represents the line with a slope of -1 and a y-intercept of 2?

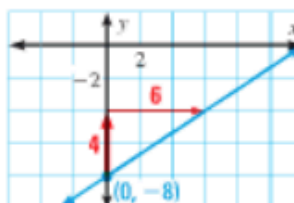
a) $y = -x + 2$ b) $y = 2x - 1$ c) $y = x - 2$ d) $y = 2x + 1$

Write an equation of the line shown.

5)



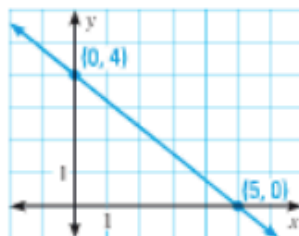
6)



7) Describe and correct the error in writing an equation of the line shown.

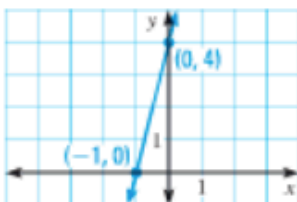
$$\text{slope} = \frac{0 - 4}{0 - 5} = \frac{-4}{-5} = \frac{4}{5}$$

$$y = \frac{4}{5}x + 4$$

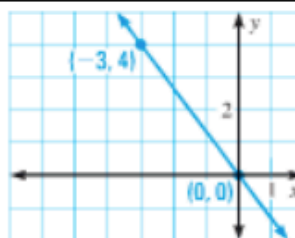


Write an equation of the line shown.

8)



9)



Write an equation of the line that passes through the given points.

10) (2, -7), (0, -5)

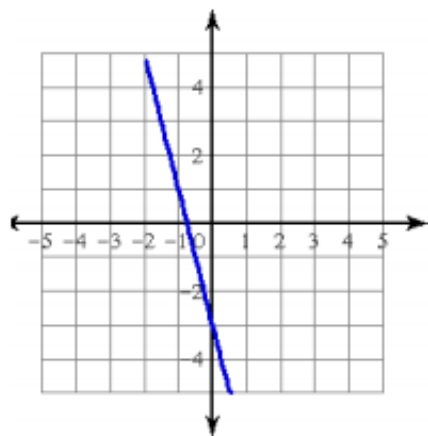
11) (0,4), (8, 3.5)

12) (0,7), (3,1)

13) (0, -1), (5, -5)

Directions: Find the equation of the line for each situation.

14)



15) (0, -2) and (1, -4)

16). Write an equation from the table below.

x	y
0	3
2	11
4	19
6	27
8	35

SKILLZ REVIEW

1) Find x. If 30% of x is 15.	Simplify. 2) $4(3x + 8) + 2x$	Solve. 3) $7 = 6 + \frac{x}{9}$
2) Find the price of a \$670 item after a 6% sales tax and a 30% discount.	5) $8 - 3(2b - 7)$	6) $\frac{5+n}{2} = -4$

6.5 Write Linear Equations in Slope-Intercept Form

APPLICATION

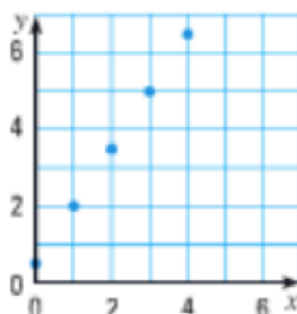
1) **MULTIPLE CHOICE:** The graph of which function is shown?

A $y = \frac{1}{2}x + \frac{1}{2}$

B $y = x + \frac{1}{2}$

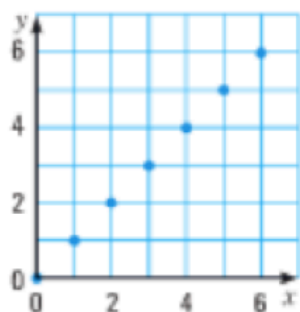
C $y = \frac{3}{2}x + \frac{1}{2}$

D $y = 2x + \frac{1}{2}$



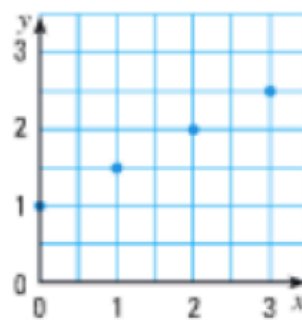
Identify the Domain and Range. Then write an equation for the line that would go through the given points.

2) Domain:
Range:



Equation:

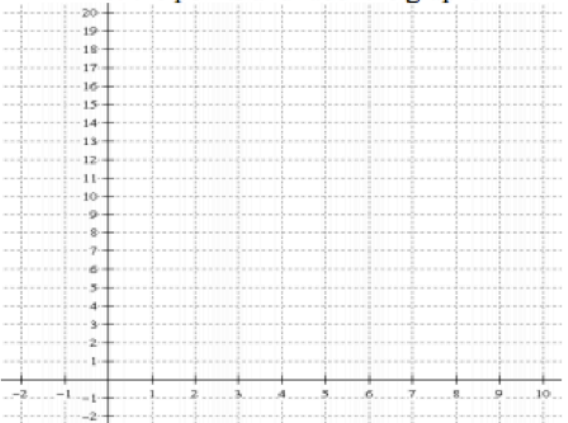
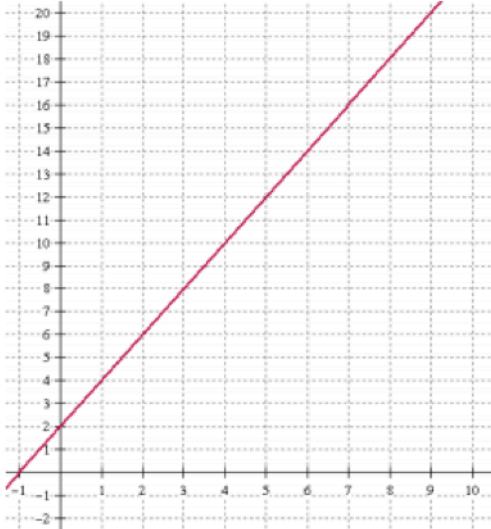
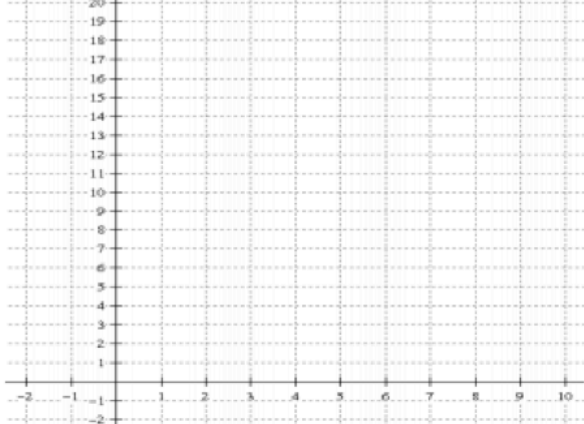
3) Domain:
Range:



Equation:

4)

Hewey, Dewey, and Lewey are saving money for the new iPad. Help them keep track of their budget by filling in the blanks!

HEWEY																
<p style="text-align: center;">VERBAL</p> <p>Hewey currently has no money saved and decides to save \$3 each day.</p> <p>Initial value =</p> <p>Rate of change =</p> <p>Equation $y =$</p>	<p style="text-align: center;">NUMERIC</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="padding: 5px;">LABEL (days)</th> <th style="padding: 5px;">Amount Saved (unit)</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">0</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">2</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">3</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">37</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;"></td><td style="padding: 5px;">100</td></tr> </tbody> </table>	LABEL (days)	Amount Saved (unit)	0		1		2		3		37			100	<p style="text-align: center;">GRAPHIC</p> <p style="text-align: center;">Plot the points and label the graph.</p> 
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1																
2																
3																
37																
	100															
LEWEY																
<p style="text-align: center;">VERBAL</p> <p>Lewey currently has _____ and saves _____</p> <p>Initial value =</p> <p>Rate of change =</p> <p>Equation $y =$</p>	<p style="text-align: center;">NUMERIC</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="padding: 5px;">Time (days)</th> <th style="padding: 5px;">Amount Saved (\$)</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">0</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">2</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">3</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;">37</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;"></td><td style="padding: 5px;">100</td></tr> </tbody> </table>	Time (days)	Amount Saved (\$)	0		1		2		3		37			100	<p style="text-align: center;">GRAPHIC</p> 
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0	5															
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Writing equations of lines from TABLES

Step 1: identify "m" or _____

- $\frac{\text{rise}}{\text{run}}$ or $\frac{\Delta y}{\Delta x}$ or $\frac{y_2 - y_1}{x_2 - x_1}$
- What is the direction of line? _____

Step 2: identify "b" or _____

- You can find "b" where _____ equals _____

Step 3: use $y = mx + b$, (general form for equation of a line) to create a rule

Use the steps from above to come to create an equation of the line. Make sure to show all of your work.

5.

Step 1: _____
Step 2: _____
Step 3: _____

x	y
0	5
1	7
2	9
3	11

6.

Step 1: _____
Step 2: _____
Step 3: _____

x	y
-6	-3
-3	-6
0	-9
3	-12

AWESOMELY RICH TASK

LINE BUILDERS

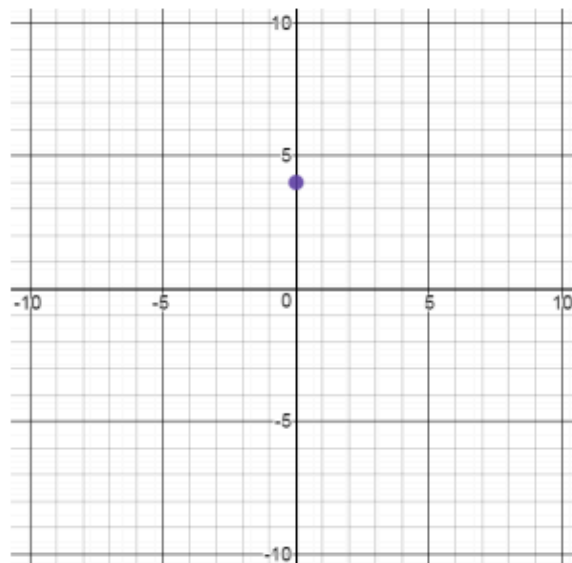
- 1) Fill in the table and graph in such a manner that you form a linear relationship.

A)

x	y
-2	
-1	
0	4
1	
2	
3	

What is the equation of the line:

Y =



Now create complete the tables and graph to come up with three DIFFERENT linear relationships.

Make sure to label your lines

B)

x	y
0	4
1	
2	
3	
4	
5	

What is the equation of the line:

Y =

C)

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

What is the equation of the line:

Y =

What do all of your equations have in common?

What's different about your equations? How can you compare what's different from the table? From the graph?

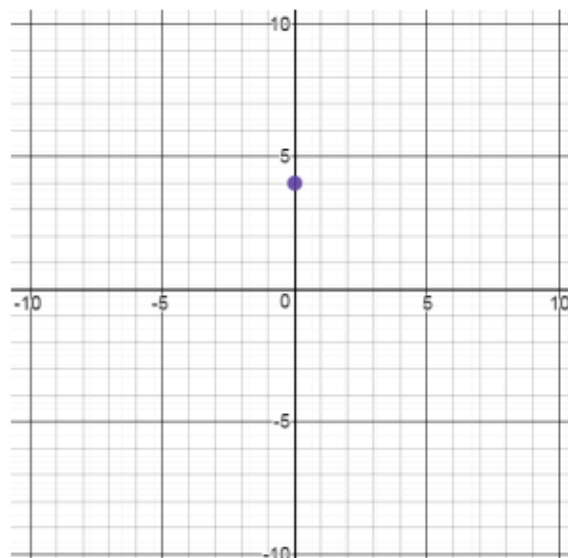
2) Fill in the table and graph in such a manner that you form a linear relationship.

A)

x	y
-9	-6
-6	
-3	
0	0
3	
6	

What is the equation of the line:

Y =



Now create complete the tables and graph to come up with three DIFFERENT linear relationships.

Make sure to label your lines

B)

x	y
-6	
-3	
0	7
3	5
6	
9	

What is the equation of the line:

Y =

C)

x	y
-6	
-3	
0	
3	-6
6	
9	-10

What is the equation of the line:

Y =

What do all of your equations have in common? How do you know that from the equation? From the graph?

What do you think will be true about all lines that have this common trait?

What's different about your equations? How can you compare what's different from the table? From the graph?