5.4 Graph Using Slope-Intercept Form

NOTES

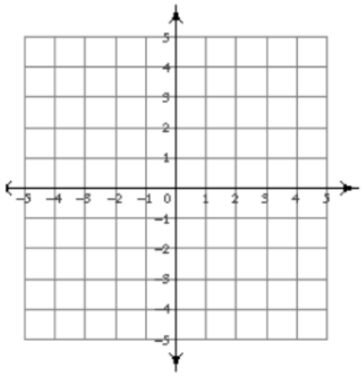
ALGEBRA

Write your questions here!

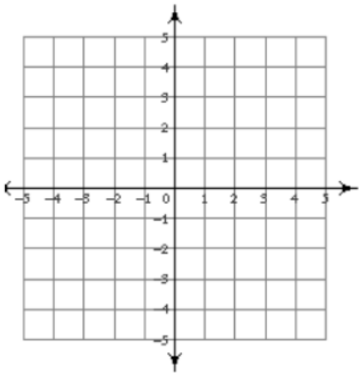
Slope-Intercept Form

Graph the following lines.

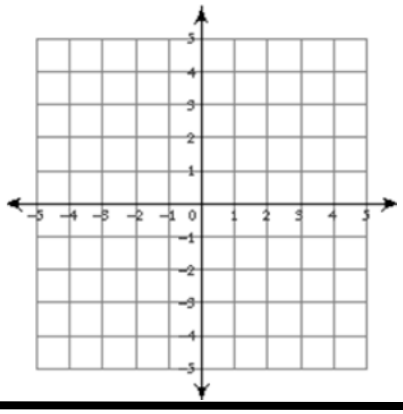
$y = 2x - 4$

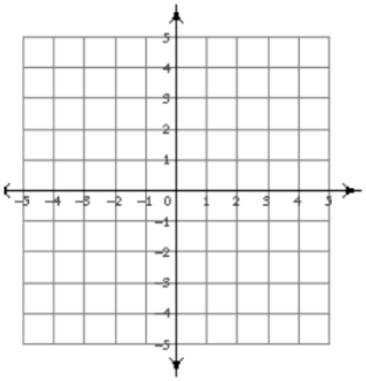


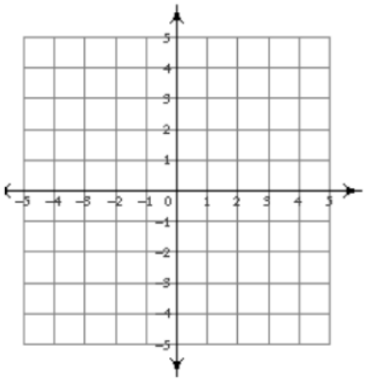
$y = -\frac{5}{4}x + 4$

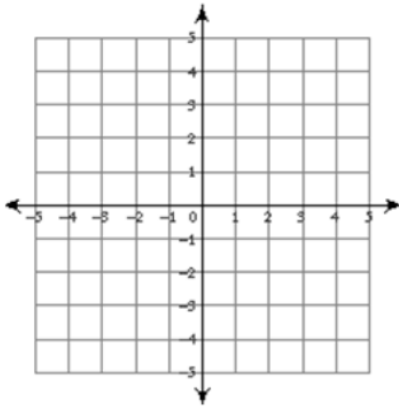


$x = 4$

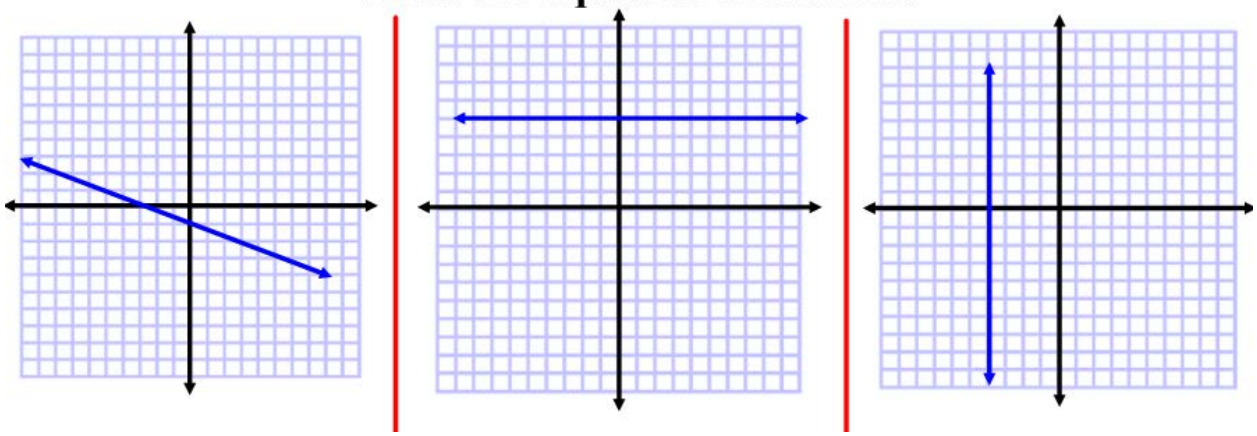




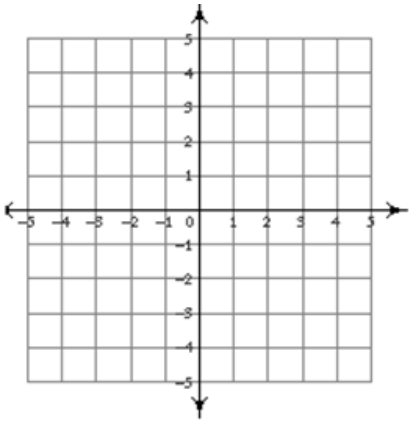


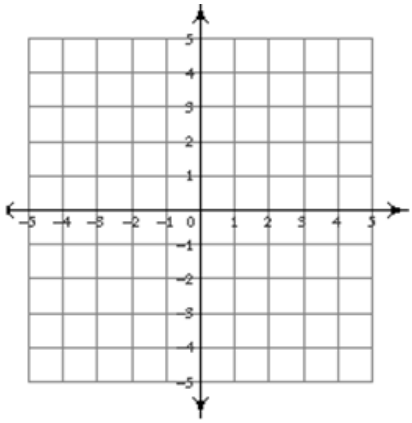


Write the equation of the line!



What if the equation is not in slope-intercept form?





Summary:

Now, summarize your notes here!

5.4 Graph Using Slope Intercept Form

PRACTICE

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

1. $y = 2x + 1$

$m =$

$b =$

2. $y = 6 - 3x$

$m =$

$b =$

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

$m =$

$b =$

4. **MULTIPLE CHOICE** What is the slope of the line with the equation $y = -18x - 9$?

A) -18 B) -9 C) 9 D) 18 E) $\frac{18}{9}$

Rewrite the equation in slope-intercept form. Then identify the slope and the *y*-intercept of the line.

5. $4x + y = 1$

6. $6x - 3y = -9$

7. $2x + 5y = -10$

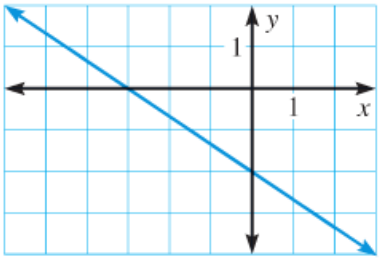
Match the equation with its graph.

8. $y = -\frac{2}{3}x + 2$

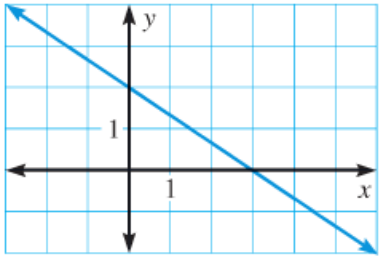
9. $y = -\frac{2}{3}x - 2$

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

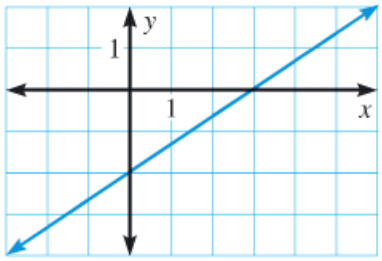
A.



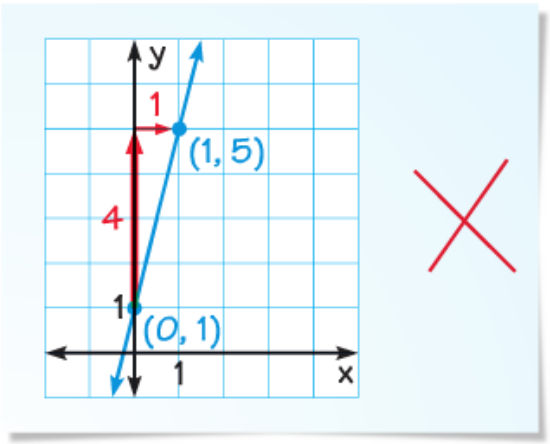
B.



C.

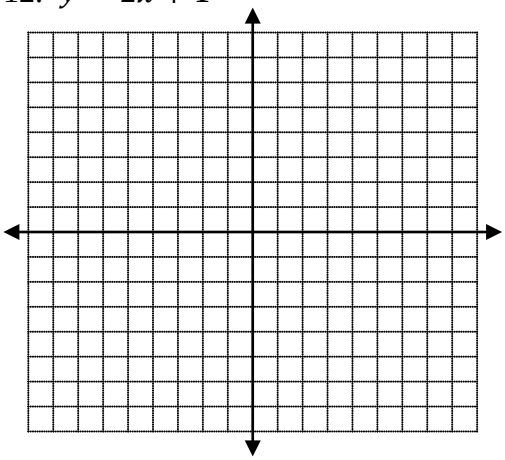


11. **ERROR ANALYSIS** *Describe* and correct the error in graphing the equation $y = 4x - 1$.

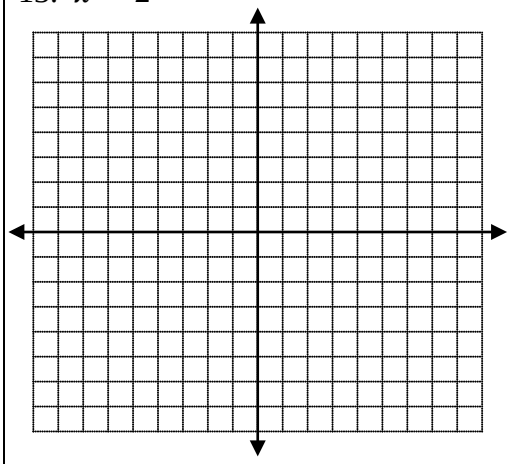


Graph the equations. Plot as many points on the graph that will fit!

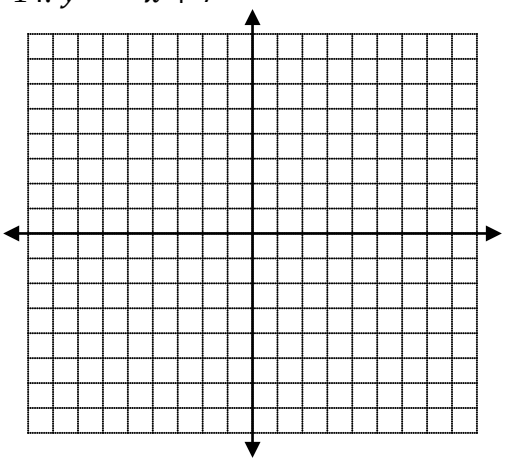
12. $y = 2x + 1$



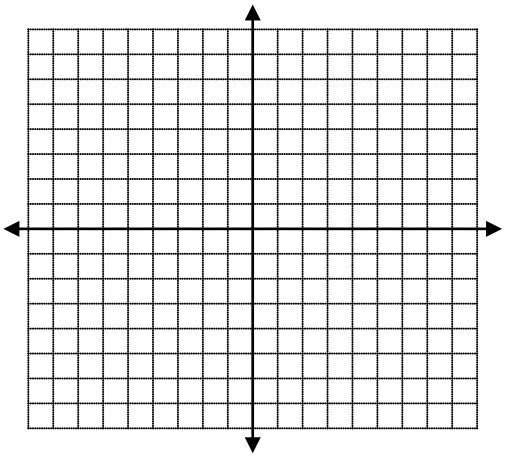
13. $x = 2$



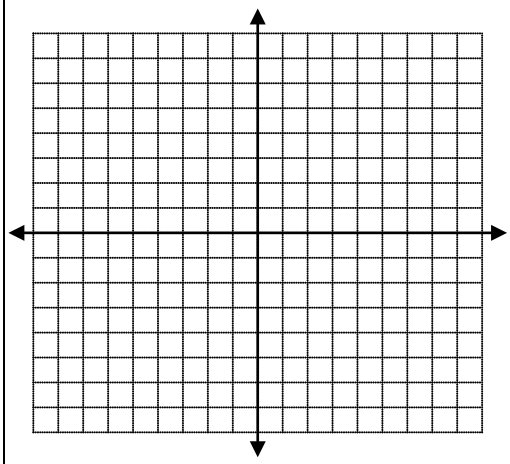
14. $y = -x + 7$



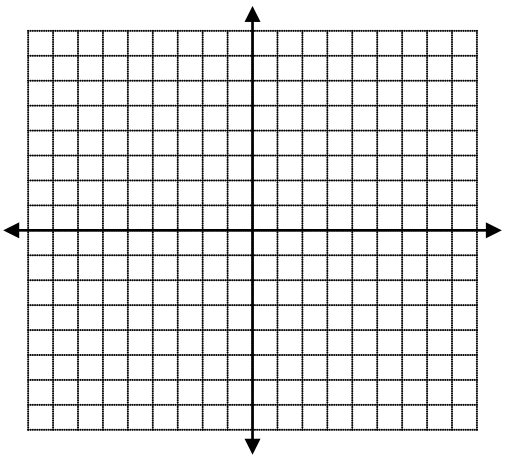
15. $y = \frac{2}{3}x$



16. $y = \frac{1}{4}x - 5$

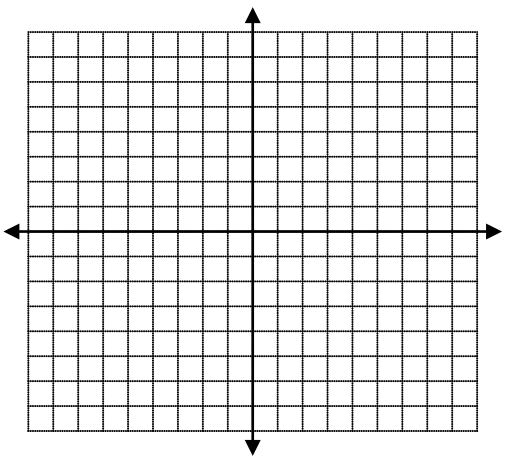


17. $y = 5$



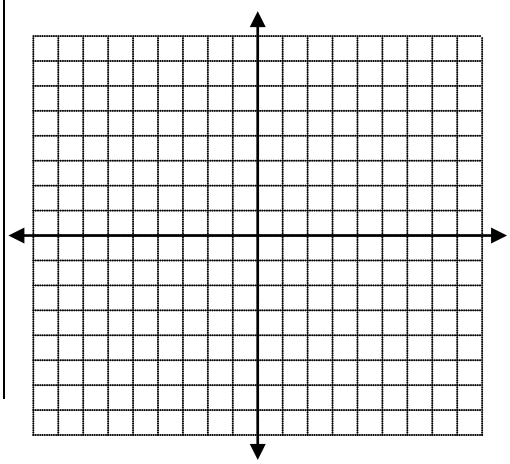
Solve for *y* and then graph!

18. $7x - 2y = 10$



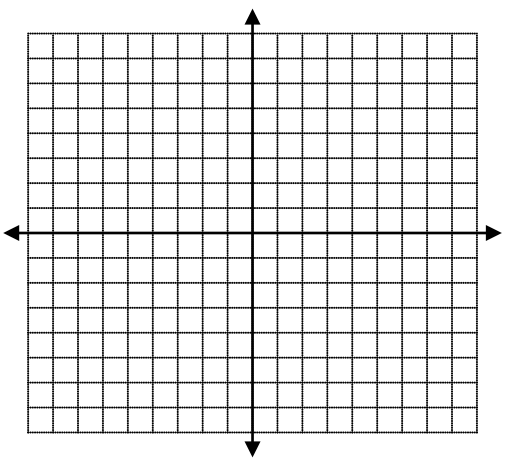
Solve for *y* and then graph!

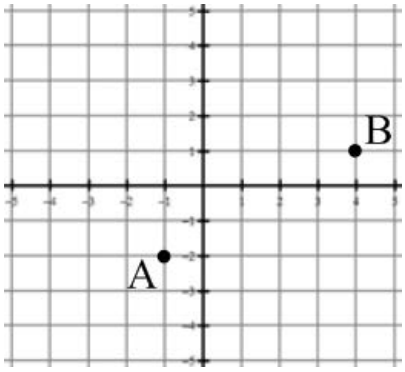
19. $8x + 2y = 16$



Solve for *y* and then graph!

20. $-2x - y = 5$



SKILLZ REVIEW		
GRAPH	**SIMPLIFY**	**SOLVE**
1. Describe how to move from point A to point B. _____ units in the *y* direction (rise) _____ units in the *x* direction (run)  2. Describe how to move from point $C(0,3)$ to point $D(2,-3)$.	3. $5(2x+1)-6$ 4. $x-5(2x-4)$	5. $6+\frac{2}{3}x=8$ 6. $x+5=8x-6$

5.4 Graphing Using Slope Intercept Form

APPLICATION

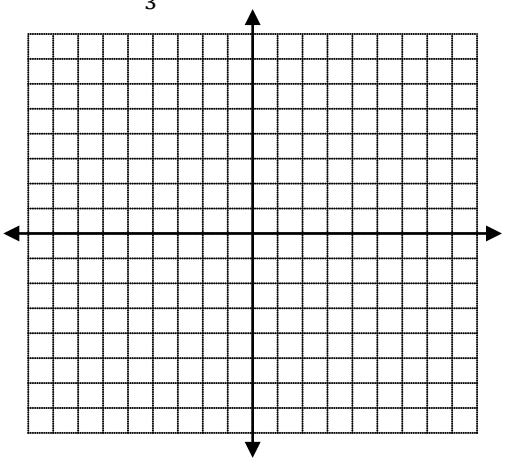
1. Solve for *y* and identify parts of the line.

$3x-5y=20$

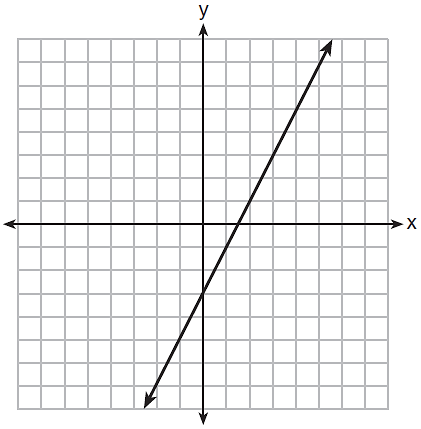
Slope $m=$

y-intercept $b=$

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



3. Which equation has the same *y*-intercept as the graph shown?



A) $y=\frac{12-6x}{4}$

B) $6y+x=18$

C) $27+3y=6x$

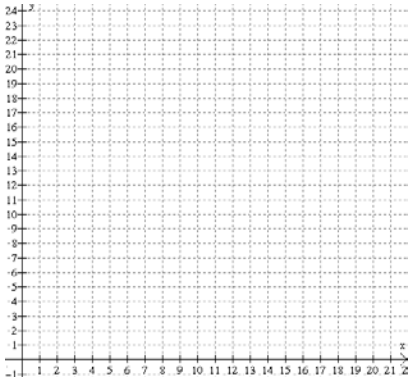
D) $y+3=6x$

Mr. Brust has been a long time, huge Jonas Brothers Fan. He challenges them to game of Rock Band. Mr. Brust selects the song "Paranoid" to rawk out to. Below shows the points each player has going into the 20 second guitar solo. Use the information to answer the questions.

Kevin

Kevin enters the guitar solo with 7 points and earns 3 points every 4 seconds.

1. What is the slope? Label it!
2. What is the initial value?(how much start with)
3. The equation to represent this is…
4. Graph your equation. Label the axes.
(NOTE: use a ruler to make a straight line!)



Joe

Joe's points are given by the table.

time (sec)	score (points)
0	10
2	11
4	12
6	13
8	14

5. What is the initial value?(how much start with)
6. What is the slope? Label it!
7. Write an equation to represent this.
8. Graph Joe on the same graph as Kevin in #4.
9. Use the graph to determine when Joe and Kevin will have the same amount of points.

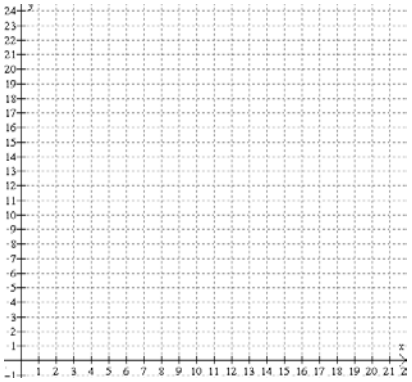
NICK

Nick enters the guitar solo with 11 points but does not earn any points during the solo.

10. What is the initial value?
11. What is the rate of change? Label it!

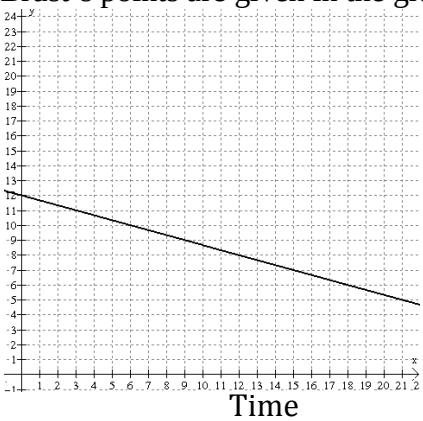
12. Write an equation to represent this.
13. Fill in the table. Graph it. Label the axis.

time (sec)	score (points)
0	
1	
2	
3	
4	



Mr. Brust

Mr. Brust's points are given in the graph.



14. Fill in the table

time (sec)	score (points)
0	
1	
2	
3	
4	

15. What is the *y*-intercept?
16. What does the *y*-intercept mean in this situation?
17. What is the slope? What does it mean?