

$$y = mx + b$$

Writing Slope-Intercept Equations

Activity

Name Key
Date _____ Period _____

Given one of the representations below, find the other two.

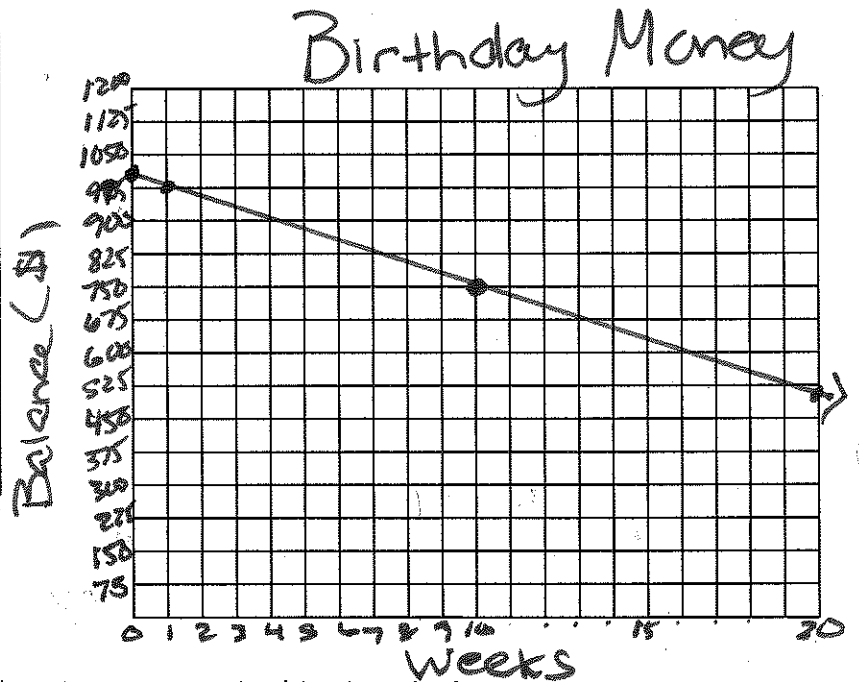
Table	Graph	Equation														
<p>1.</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>-5</td> </tr> <tr> <td>0</td> <td>-3</td> </tr> <tr> <td>1</td> <td>-1</td> </tr> <tr> <td>2</td> <td>1</td> </tr> <tr> <td>3</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> </tr> </tbody> </table> <p><i>y-int</i> (circled 0, -3) → <i>m</i></p>	x	y	-1	-5	0	-3	1	-1	2	1	3	3	4	5		<p>$m: \frac{2}{1} = 2$ $b: -3$ $y = 2x - 3$</p>
x	y															
-1	-5															
0	-3															
1	-1															
2	1															
3	3															
4	5															
<p>2.</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>2</td> </tr> <tr> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>0</td> </tr> <tr> <td>2</td> <td>-1</td> </tr> </tbody> </table> <p><i>y-int</i> (circled 0, 1) → <i>m</i></p>	x	y	-1	2	0	1	1	0	2	-1	<p>$m: \frac{-1}{1} = -1$ $b: 1$</p>	<p>$m: \frac{-1}{1} = -1$ $b: 1$ $y = -x + 1$</p>				
x	y															
-1	2															
0	1															
1	0															
2	-1															
<p>3.</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>-3</td> <td>1</td> </tr> <tr> <td>-2</td> <td>5</td> </tr> <tr> <td>0</td> <td>9</td> </tr> </tbody> </table>	x	y	-3	1	-2	5	0	9		<p>$m: \frac{4}{1} = 4$ $b: 5$ $y = 4x + 5$</p>						
x	y															
-3	1															
-2	5															
0	9															

Slope-Intercept Form:

1. Jason's grandparents gave him \$1,000 for his 16th birthday. He put the money in the bank and decided to withdraw \$25 each week.
constant
negative *rate* *Dollars* *each* *week* *DV* *IV*

- a. Identify the independent variable.
Weeks
- b. Identify the dependent variable.
(Dollars) Balance in bank
- c. Complete the table and graph for the above situation.

<i>Weeks</i> x	<i>y</i>
0	1000
1	975
2	950
10	750
15	625
20	500
n	$1000 - 25n$



- d. Identify the slope. What does it represent in this situation?
 $m = -25$ It represents that he is withdrawing \$25 each week
- e. Identify the y-intercept. What does it represent in this situation?
 y-intercept (0, 1000) It represents that he starts with \$1,000 in the bank
- f. Write the equation of the line.
 $y = -25x + 1000$
- g. How much money will Jason have in the bank after 6 months? *6 months x 4 = 24 weeks*
 $y = -25(24) + 1000$ 500
 $y = 500$
- h. Does Jason have enough money to withdraw \$25 each week for a year? Explain. *1 yr = 52 weeks*
 $y = -25(52) + 1000$
 $y = -300$ No, that would be over the \$1000 since it's negative
- i. What are reasonable domain and range values for this situation?