

Algebra Equations Day 1 warm up

1. You have \$300 in a savings account. You spend \$5 each day for lunch.

a. Make a table to show how much money you have in your account (up to 10 days). *

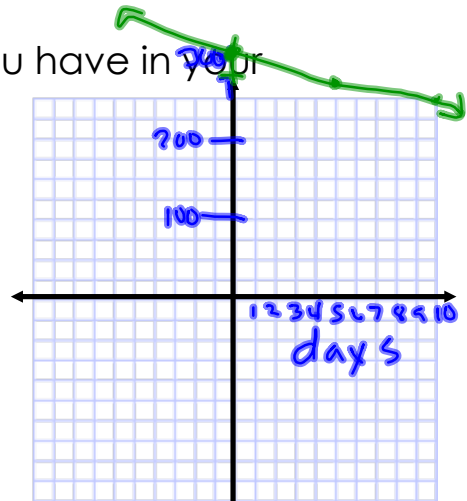
b. Graph your data.

c. How much money will you have in 10 days?

\$250

d. How much money will you have in 12 days?

\$240



e. Write an equation to represent how much money you will have left in your savings account after x days.

x = days
y = money left

$$y = -5x + 300$$

↑ rate of change
↑ starting point
↓ on the x-axis

x	y
0	300
1	295
2	290
3	285
4	280
5	275
6	270
7	265
8	260
9	255
10	250

Algebra Equations Day 1

When equations look like this, it is in Slope - intercept form.

$$y = mx + b$$

(slope
) y-intercept/Starting point

The number in front of the x is the Slope. The number not in front of the x is the y-intercept. When graphing, start at the y-intercept and then use the slope to find the next point.

Examples

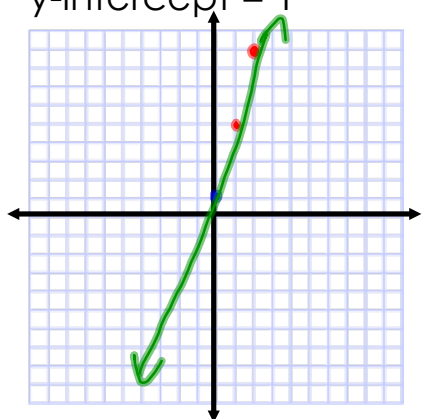
For numbers 1-2, graph each line with the given information. Then write the equation for the line.

1. Slope = 4

y-intercept = 1

4 up 4
1 right 1

Starting point



Equation

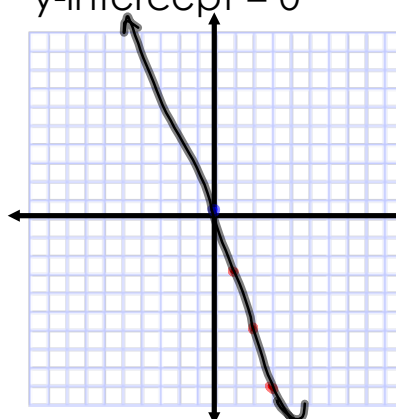
$$y = 4x + 1$$

2. Slope = -3

y-intercept = 0

-3 down 3
1 right 1

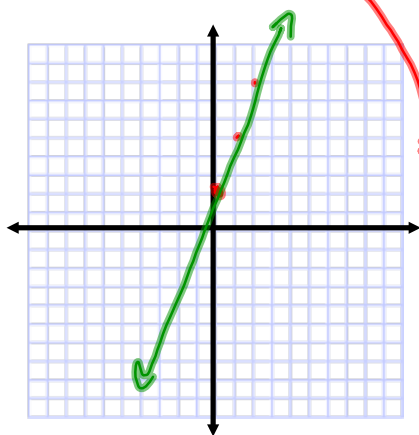
Starting point



Equation

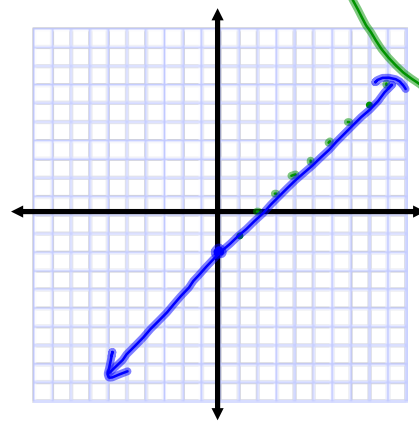
$$y = -3x + 0$$

3. Graph the line $y = 3x + 2$.



$\frac{3}{1}$ up 3
1 right 1

4. Graph the line $y = x - 2$.



$\frac{1}{1}$ up 1
1 right 1

5. Rewrite each equation for the line in slope-intercept form. Then find the slope and y-intercept.

$$y = mx + b$$

a. $x + y = 4$ slope = -1 y-intercept = 4

$y = -x + 4$

b. $3x + 2y = 10$ slope = $-\frac{3}{2}$ y-intercept = 5

$y = -\frac{3}{2}x + 5$

6. The price of cheese pizza is \$4.50 with an extra charge of \$.50 for each additional topping. If this situation were graphed with x = the number of toppings and y = total price, what would be...

a. y-intercept: 4.50

b. slope? $.50$

c. equation? $y = .50x + 4.50$

$y = mx + b$ — starting price

$y = \underline{.50}x + \underline{4.50}$