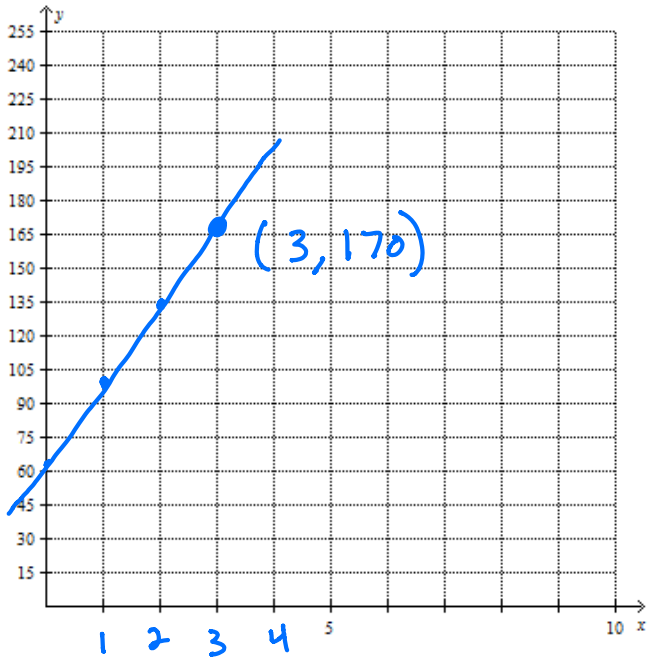
7. A plumber charges a $65 fee for a repair plus $35 per hour. Write an equation to model the total cost of a repair that takes x hours.

Starting Point — Rate

What would be the cost if the plumber worked 3 hours? $65 + 35 + 35 + 35$ (3 hrs) or $65 + 35 \cdot 3$

Create a graph and mark the ordered pair that represents the cost worked for 3 hours.



8. Write the equation in slope-intercept form that represents the line that passes through the following point.

a. $(3, -2)$ *and* $(1, -3)$

x	y
0	-3.5
1	-3
3	-2

-1, +2, -0.5, +1

$m = \frac{1}{2}$ $b = -3.5$

$y = \frac{1}{2}x - 3.5$

b. $(-1, 2)$ *and* $(0, 0)$

x	y
-1	2
0	0

+1, -2

$m = \frac{-2}{1} = -2$ $b = 0$

$y = -2x$

c. $(-2, 9)$*and* $(1, 6)$

x	y
-2	9
0	7
1	6

+3, -3

$m = \frac{-3}{3} = -1$ $b = 7$

$y = -x + 7$

d. $(5, -3)$ *and* $(5, 7)$

x	y
5	-3
5	7

0, +10

$m = \frac{10}{0}$ undefined

$x = 5$

e. $(-3, 5)$ *and* $(7, 5)$

x	y
-3	5
0	5
7	5

+10, +0

$m = \frac{0}{10} = 0$ No Change

$b = 5$

$y = 5$

f. $(-4, -1)$ *and* $(-8, 7)$

x	y
-8	7
-4	-1
0	

+4, -8

$m = \frac{-8}{4} = -2$ $b = -9$

$y = -2x - 9$

9. The number s of tablespoons of sea salt needed in a saltwater fish tank varies directly with the number w of gallons of water in the tank. A pet shop owner recommends adding 100 tablespoons of sea salt to a 20-gallon tank.

   a. What is the rate of change?

   $$\frac{100 \text{ Tbsp}}{20 \text{ gallon}} = \frac{5 \text{ Tbsp}}{\text{gallon}}$$

   b. Write the equation.

   $s = 5w$ (w is # of gallons of water, s is amount of salt)

   c. How many tablespoons of salt should be added to a 30-gallon saltwater fish tank?

   $s = 5(30) = 150 \text{ Tbsp}$

   d. How many tablespoons of salt should be added to a 22-gallon saltwater fish tank?

   $s = 5(22) = 110 \text{ Tbsp}$