**Graphing a Line Given Slope
and Y-Intercept**
Class Notes

Name_____

Date _____ Period ____

1. Joshua is participating in the school math–a–thon to raise money for the end–of–year field trip. His mother is donating $10 to get her started. he will receive $2 for every problem she answers correctly.

   a. Graph the situation.

   b. What is the slope? $+2$
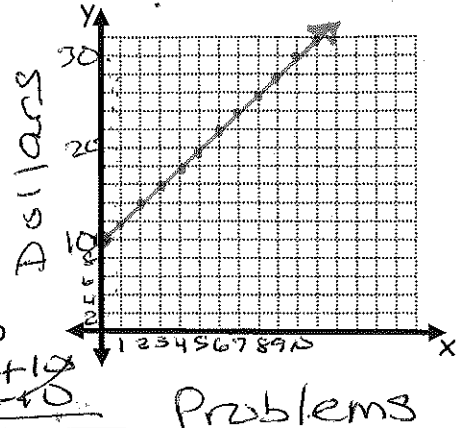 m

   c. What is the y–intercept? 10
      b

   d. How many answers does she have to get correct to earn $34?

$y = 2x + 10$ $34 = 2x + 10$
$-10 \quad -10$
$\dfrac{24}{2} = \dfrac{2x}{2}$ $x = 12$ Problems

2. Patti bought a plant that was 8 inches tall. The plant is growing at a rate of $\frac{1}{2}$ inch per week.

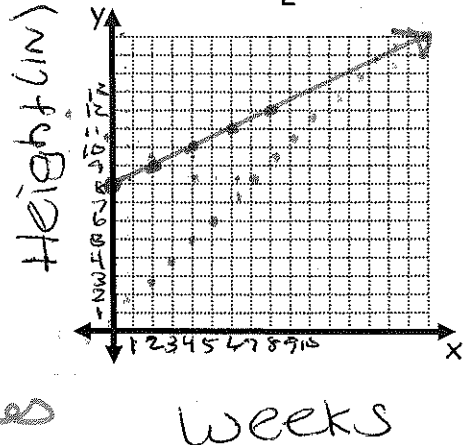   a. Graph the situation.

   b. What is the slope? $\frac{1}{2}$ $\dfrac{inch}{weeks}$

$y = mx + b$

   c. What is the y–intercept? 8
   starts

y: height
x: weeks

   d. How tall will the plant be in 9 weeks?

$y = \frac{1}{2}x + 8$
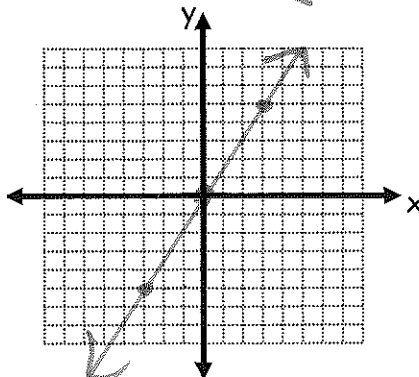$y = \frac{1}{2}(9) + 8$ $y = 12.5$ inches

weeks

$1.$ start at b

Graph each of the following given the slope and y-intercept.
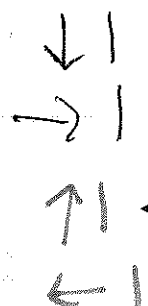
3. $m = -1, (0, 3)$
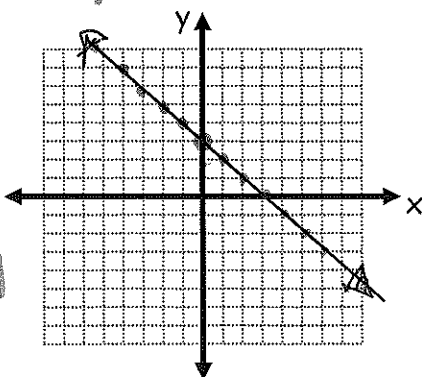
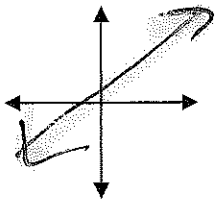4. $m = \frac{5}{3}; (0, 0)$

5. $m = -\frac{2}{3}, b = -8$
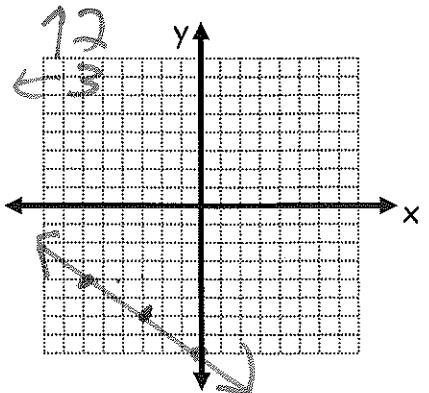
6. There are four types of slope. Name and sketch a graph of each.
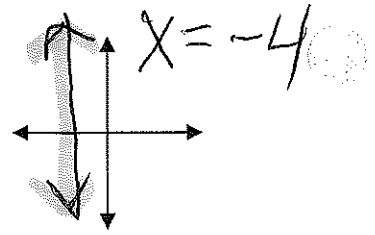

$y=3$ $x=-4$
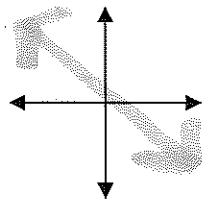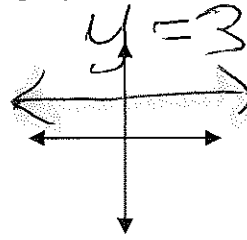
__Positive__   __Negative__   __Zero__   __Undefined__
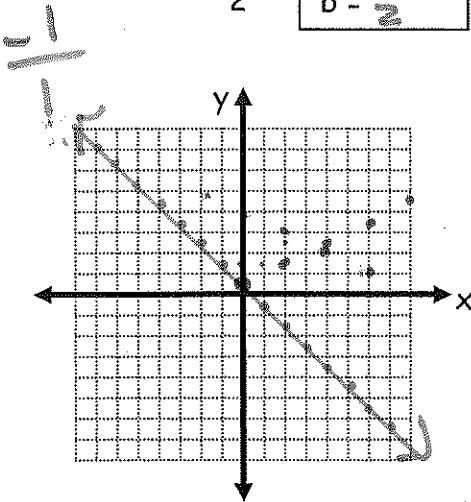
Given the following equations in slope–intercept form, state the values for the slope and y–intercept and graph. Below each graph, identify the type of slope.
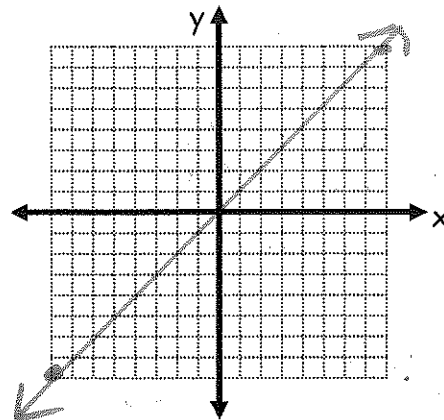
$y=mx+b$

7. $y = -x + \dfrac{1}{2}$

$m = -1$
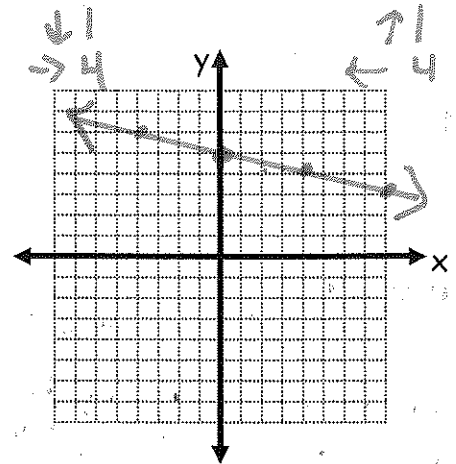$b = \dfrac{1}{2}$

8. $y = x$

$m = 1$
$b = 0$

Linear parent

9. $y = -\dfrac{x}{4} + 5$

$y = -\dfrac{1}{4}x + 5$

$m = -\dfrac{1}{4}$
$b = 5$

__Negative__   __Positive__   __Negative__