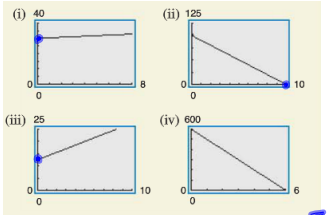
PreCalculus - Warm Up - 8/21/17

1. Match descriptions a-d with one of the 4 graphs shown. Determine the slope of each graph and how it is interpreted within the given context.



(a) You are paying $10 per week to repay a $100 loan. II
(b) An employee is paid $12.50 per hour plus $1.50 for each unit produced per hour. III
(c) A sales representative receives $30 per day for food plus $0.35 for each mile traveled. I
(d) A computer that was purchased for $600 depreciates $100 per year. IV

2. Graph the following:

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

b) $2x - 4y = 7$

STANDARD FORM

Solve for y

b=2

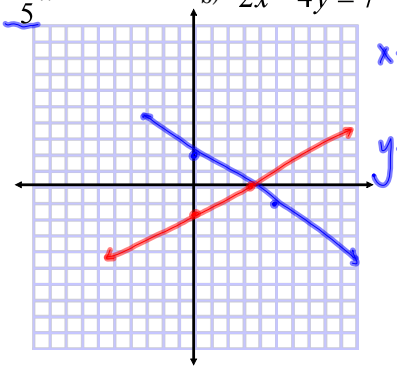
$m = -\frac{3}{5}$

x-int: $2x - 4(0) = 7$

$x = \frac{7}{2}$

y-int: $2(0) - 4y = 7$

$y = -\frac{7}{4}$



Lines in the Plane

Section 1.1

Equation

1. Find slope $\left(m=\frac{y_2-y_1}{x_2-x_1}\right)$

$$m=\frac{-3}{12}=\frac{1}{4}$$

2. Use point-slope form

$$y-y_1=m(x-x_1)$$

$$y+5=\frac{1}{4}(x+8)$$

$$y+2=\frac{1}{4}(x-4)$$

Table

Graph

$$y=\frac{1}{4}x-3$$

Words

A linear graph that goes through (-8, -5) and (4, -2)

x_2 y_2

x_1 y_1

b) $(1, 5)$ and $(-1, 3)$

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

$$y-3=1(x+1)$$

$$y-5=1(x-1)$$

$$y-5=x-1$$

$$y=x+4$$

Parallel Lines

have same slope

Perpendicular Lines

have opposite reciprocal slope

Equation

Slope $-\frac{2}{1} \rightarrow +\frac{1}{2}$

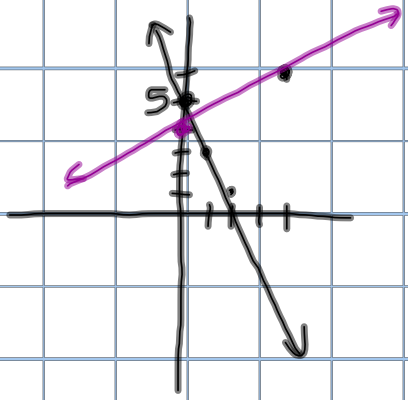
Point $(4,6)$

$y-6=\frac{1}{2}(x-4)$ ✓

$y=\frac{1}{2}x+4$

Table

Graphs (plural)



Words

A linear equation that is perpendicular to $y = -2x + 5$ and goes through $(4,6)$