

Homework Answers  
pg 116 - 117:

12. slope  $\rightarrow 5/2$   
y-int  $\rightarrow (0, 9/2)$

14.  $y = -3/4 x + 2$

16. slope  $\rightarrow 2/3$   
y-int  $\rightarrow (0, -1)$   
 $y = \frac{2}{3}x - 1$

18.  $y = x$

32.  $y = -4x - 3/2$

36.  $y = -2x - 9$

40.  $y = -2x + 3$

44.  $y = 4/25 x + 4/5$

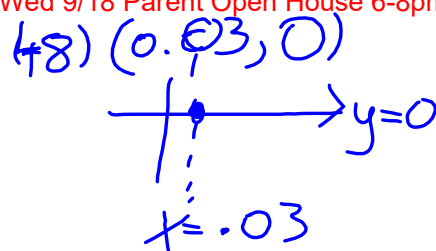
48.  $y = 0$   $x = 0.03$

52. parallel

56.  $\perp$

60.  $\parallel y = -2x - 13$   
 $\perp y = 1/2 x - 3$

Friday: Quiz  
Tues, 9/17 GrHW1 Due & Quiz  
Wed 9/18 Parent Open House 6-8pm



Sep 23-5:04 PM

60)  $(-4, 5)$ ,  $2x + y = -4$   $y = -2x - 4$   $m = -2$

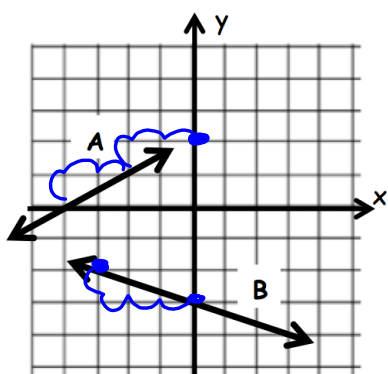
a)  $\parallel$ ,  $m = -2$   
 $y + 5 = -2(x + 4)$   
 $y = -2x - 8 - 5$   
 $y = -2x - 13$

b)  $\perp$ ,  $m = +\frac{1}{2}$   
 $y + 5 = \frac{1}{2}(x + 4)$   
 $y = \frac{1}{2}x + 2 - 5$   
 $y = \frac{1}{2}x - 3$

# Writing Equations of Lines in Standard Form

Aug 22-9:05 AM

Warm-Up: Write the equation of the lines in slope-intercept form.



$$y = mx + b$$

A:  $y = (1/2)x + 2$

B:  $y = -(1/3)x - 3$

Answers

Aug 22-8:58 AM

# Standard Form of the Equation of a Line:

$$Ax + By + C = 0$$

Where  $A, B, C \in \mathbb{Z}$  *no fractions or decimals*  
and  $A \geq 0$

Aug 22-9:02 AM

Write the equation of a line with the given conditions in standard form.

1.  $m = 2.1$ , y-intercept  $(0, -3.2)$

$$\begin{aligned} y &= 2.1x - 3.2 \\ \left( y = \frac{21}{10}x - \frac{32}{10} \right) \\ 10y &= 21x - 32 \rightarrow 21x - 10y - 32 = 0 \end{aligned}$$

2. through  $(7, -3)$  and  $(5, 1)$

$$\begin{aligned} m &= \frac{1+3}{5-7} = \frac{4}{-2} = -2 \\ y - 1 &= -2(x - 5) \\ y &= -2x + 10 + 1 \\ y &= -2x + 11 \\ 0 &= -2x - y + 11 \\ 2x + y - 11 &= 0 \end{aligned}$$

$Ax + By + C = 0$   
 $A \geq 0$   
 $A, B, C \in \mathbb{Z}$

Aug 22-9:03 AM

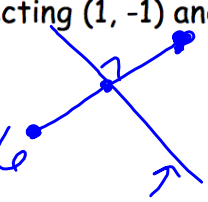
3. through  $(2, 4/3)$  and  $(0, 1/3)$   $m = \frac{4/3 - 1/3}{2 - 0} = \frac{1}{2}$   
 $(y = \frac{1}{2}x + \frac{1}{3}) \cdot 6$   $b = 1/3$   
 $6y = 3x + 2$   
 $3x - 6y + 2 = 0$

4. perpendicular to  $2x - 7y + 1 = 0$  through  $(3, 5)$   
 $\frac{-7y}{-7} = \frac{-2x-1}{-7}$   $y - 5 = -\frac{7}{2}(x - 3)$   
 $y = \frac{7}{2}x + \frac{1}{2}$   $2(y - 5) = (-\frac{7}{2}x + \frac{21}{2}) \cdot 2$   
 $m = \frac{7}{2}$   $2y - 10 = -7x + 21$   
 $\perp m = -\frac{2}{7}$   $7x - 21 + 2y - 10 = 0$   
 $7x + 2y - 31 = 0$

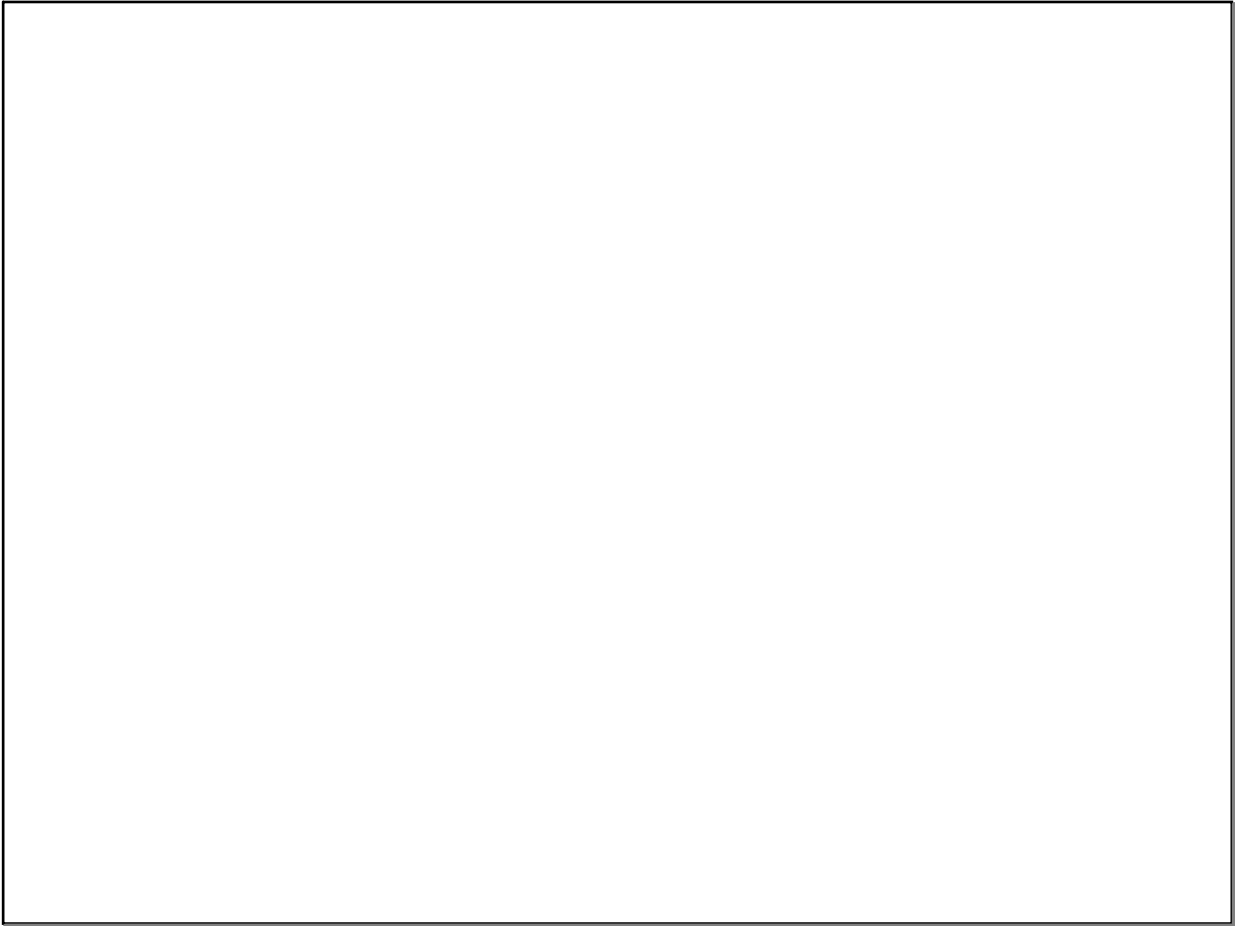
Aug 22-9:03 AM

5. parallel to  $3x + 4y = 5$  through  $(3, -2)$   
 $4y = -3x + 5$   $4(y + 2) = [\frac{3}{4}(x - 3)] \cdot 4$   
 $y = -\frac{3}{4}x + \frac{5}{4}$   $-4y - 8 = 3x - 9 + 4y + 8$   
 $m = -3/4$   $-4y - 8 = 3x - 9 + 4y + 8$   
 $3x - 9 + 4y + 8 = 0$   
 $3x + 4y - 1 = 0$

6. perpendicular bisector of segment connecting  $(1, -1)$  and  $(4, 8)$   
 $m = \frac{8 - (-1)}{4 - 1} = \frac{9}{3} = 3$   $y - \frac{7}{2} = -\frac{1}{3}(x - \frac{5}{2})$   
 $\perp m = -\frac{1}{3}$   $(y - \frac{7}{2} = -\frac{1}{3}x + \frac{5}{6}) \cdot 6$   
 $m \text{ pt} = (\frac{1+4}{2}, \frac{-1+8}{2})$   $6y - 21 = -2x + 5$   
 $= (\frac{5}{2}, \frac{7}{2})$   $2x - 5 + 6y - 21 = 0$   
 $= (x_1, y_1)$   $2x + 6y - 26 = 0$



Aug 22-9:03 AM



Sep 10-8:58 PM