

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. $y = x$
 $2x + y = -4$
 $y = -2x - 4$
 $\parallel m: -2$
 $\perp m: \frac{1}{2}$

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

(0.03, 0)

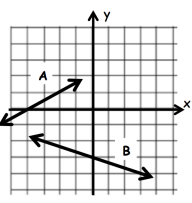
(-4, -5)

Sep 23-5:04 PM

Writing Equations
of Lines in
Standard Form

Aug 22-9:05 AM

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



A: $y = \frac{1}{2}x + 2$

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 $A, B, C \in \mathbb{Z}$ (Integers)
 $A \in \mathbb{N}$ (Natural #'s)

Aug 22-9:02 AM

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

1. $m = 2.1$, y-intercept $(0, -3.2)$
 $y = mx + b$
 $y = 2.1x - 3.2$
 $2.1x - y - 3.2 = 0$
 $21x - 10y - 32 = 0$

2. through $(7, -3)$ and $(5, 1)$
 $m = \frac{-3-1}{7-5} = \frac{-4}{2} = -2$
 $y - y_1 = m(x - x_1)$
 $y + 3 = -2(x - 7)$
 $y + 3 = -2x + 14$
 $2x + y - 11 = 0$

Aug 22-9:03 AM

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

4. perpendicular to $2x - 7y + 1 = 0$ through $(3, 5)$
neg. recip.
 $2x + 1 = \frac{7}{2}y$
 $y = \frac{2}{7}x + \frac{1}{7}$
 $m = -\frac{7}{2}$
 $y - y_1 = m(x - x_1)$
 $y - 5 = -\frac{7}{2}(x - 3)$
 $2y - 10 = -7x + 21$
 $7x + 2y - 31 = 0$

Aug 22-9:03 AM

5. parallel to $3x + 4y = 5$ through $(3, -2)$

same slope $\frac{4y}{4} = \frac{-3x+5}{4}$ $y - y_1 = m(x - x_1)$
 $y = \frac{-3}{4}x + \frac{5}{4}$ $y + 2 = \frac{-3}{4}(x - 3)$
 $m = \frac{-3}{4}$ $4y + 8 = -3x + 9$
 $+3x = 9 - 4y - 8$
 $3x + 4y - 1 = 0$

6. perpendicular bisector of segment connecting $(1, -1)$ and $(4, 8)$

neg recip $m = \frac{-1-8}{1-4} = \frac{-9}{-3} = 3$ $y - y_1 = m(x - x_1)$ $y - \frac{7}{2} = -\frac{1}{3}(x - \frac{5}{2})$
 $m = -\frac{1}{3}$ $midpt: (\frac{1+4}{2}, \frac{-1+8}{2}) = (\frac{5}{2}, \frac{7}{2})$ $2[3y - \frac{21}{2} = -x + \frac{5}{2}]$
 $6y - 21 = -2x + 5$
 $+2x = 5 - 6y + 21$
 $2x + 6y - 26 = 0$

Aug 22-9:03 AM

Sep 12-7:30 AM