HW: 1.7/33-41, 43

January 18, 2022

HW Solutions

(13) $2x - 8y = 9$

$-2x \quad -2x$

$\frac{-8y}{-8} = \frac{-2x + 9}{-8}$

$y = \frac{1}{4}x - \frac{9}{8}$

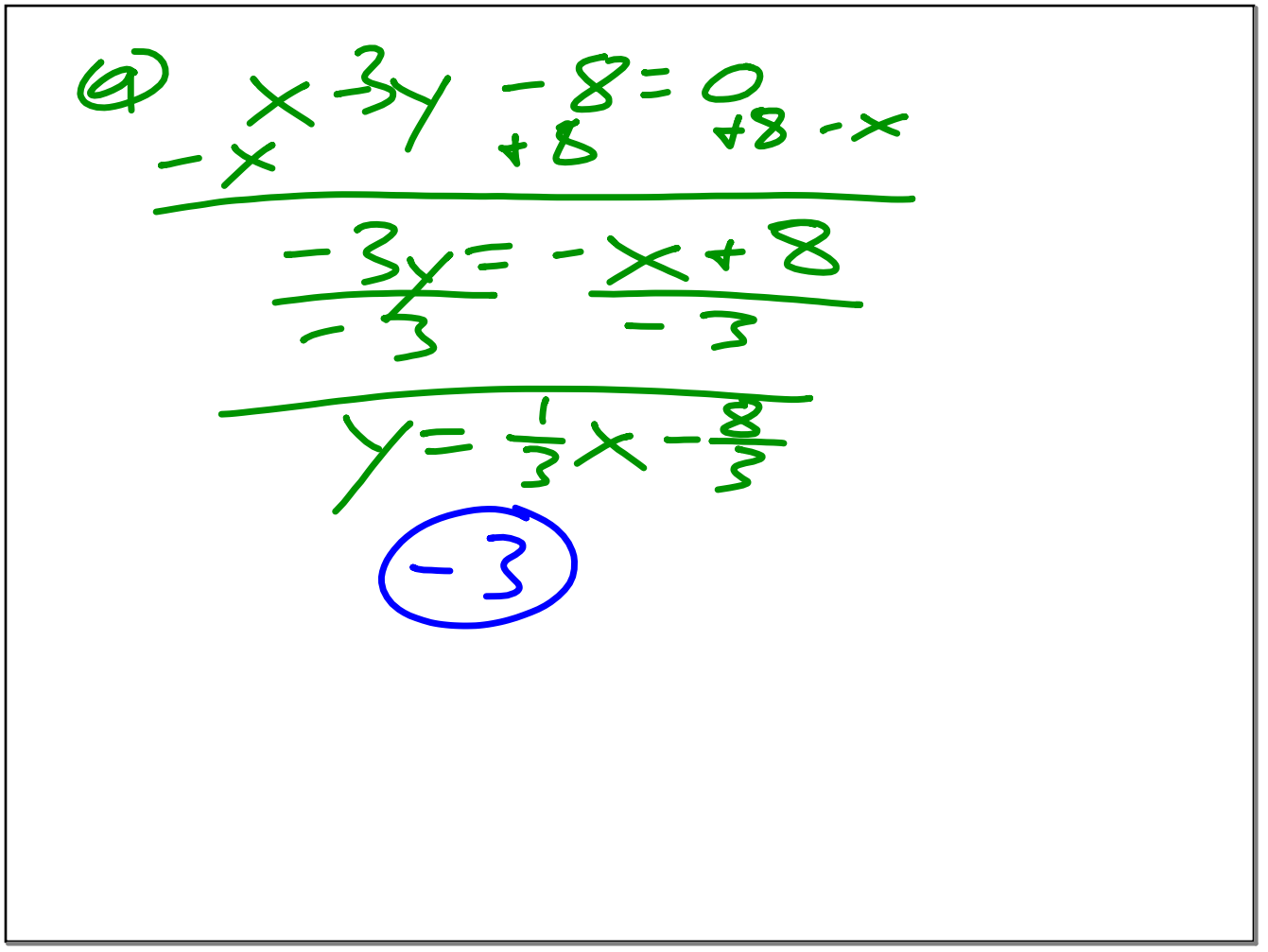
$12x + 3y = 7$

$-12x \quad -12x$

$\frac{3y}{3} = \frac{-12x + 7}{3}$

$y = -4x + \frac{7}{3}$

perpendicular


@
$x - 3y - 8 = 0$
$-x \quad +8 \quad +8 - x$
$\frac{-3y}{-3} = \frac{-x + 8}{-3}$
$y = \frac{1}{3}x - \frac{8}{3}$
-3

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$x - 2y + 7 = 0$

$+2y \quad +2y$

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

$\frac{1}{2}x + \frac{7}{2} = y$

$(-4, 0)$

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

$0 = \frac{1}{2}(-4) + b$

$0 = -2 + b$

$+2 \quad +2$

$2 = b$

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

(4) $(-2, 3)$ $(2, 5)$ $(6, k)$

$\frac{5-3}{2-(-2)} = \frac{2}{4} = \frac{1}{2}$

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

$5 = \frac{1}{2}(2) + b$

$5 = 1 + b$

$-1 \quad -1$

$4 = b$

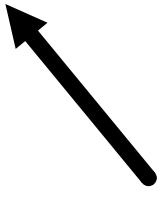
$y = \frac{1}{2}x + 4$

$\frac{1}{2}(6) + 4$

$7 = 3 + 4$

$y = 2x$

$f(x) = 2x$



"f of x"

$f(x) = 3x - 5$

$f(0) = 3(0) - 5 = -5$

$f(1) = -2$

$f(2) = 1$

$f(-3) = -14$

$P(x) = 2x + 3$

Solve $P(x) = 0$

$0 = 2x + 3$

$-3 \quad -3$

$-3 = 2x$

$\frac{-3}{2} = \frac{2x}{2}$

$x = -\frac{3}{2}$

$f(x) = 3x - 4$

$f: x \longrightarrow 3x - 4$ arrow notation

$f(x) = -3x + 1$ $g(x) = x^2 - 5$

Find the following values.

1) f(5) -14

2) g(-3) 4

3) g(0) -5

4) f(a + 4) $-3(a+4)+1$ $-3a-12+1$ $-3a-11$

5) g(4b) $(4b)^2-5$ $16b^2-5$

6) f[g(2)] $= f(-1)$ $-3(-1)+1 = 3+1 = 4$

7) Solve f(x) = 0

$0 = -3x+1$

$-1 \quad -1$

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

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