MAT 035, Quiz #3, Fall 2016 Name KEY

Instructions: Show all work to receive full credit. You should note any formulas used or calculator functions used, their inputs and outputs. I cannot grade work if I don't know where an answer came from. Be sure complete all parts of each questions, including requests for interpretation and explanations. Be as thorough as possible.

1. Solve

   a. $3x + 4 = 10$

   $-4 \quad -4$

   $\frac{3x}{3} = \frac{6}{3}$

   $\boxed{x = 2}$

   b. $4(x + 2) - 11 = 5$

   $4x + 8 - 11 = 5$

   $4x - 3 = 5$

   $+3 \quad +3$

   $4x = 8$

   $\frac{4x}{4} = \frac{8}{4}$

   $\boxed{x = 2}$

   c. $5 - 2(x - 3) = x + 7$

   $5 - 2x + 6 = x + 7$

   $11 - 2x = x + 7$

   $-11 \qquad -11$

   $-2x = x - 4$

   $-x \quad -x$

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

   $\boxed{x = \frac{4}{3}}$

   d. $3x + 4 = 2(x + 1) + x$

   $3x + 4 = 2x + 2 + x$

   $3x + 4 = 3x + 2$

   $-3x \quad -3x$

   $4 = 2$ ← contradiction, no solution

2. Solve for y in $3x - 2y = 12$.

   $+2y \quad +2y$

   $3x = 12 + 2y$

   $-12 \quad -12$

   $3x - 12 = 2y$

   $\frac{3x - 12}{2} = \frac{2y}{2}$

   $\boxed{\frac{3}{2}x - 6 = y}$ or $\boxed{\frac{3x - 12}{2} = y}$