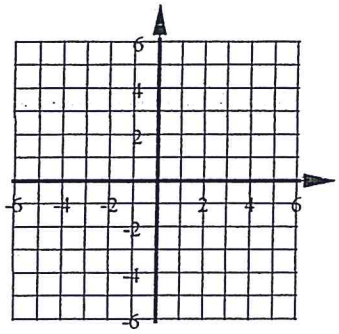
Algebra 1 Bellwork Monday, February 8, 2016

1. Find the solution to this system of equations by graphing. $y = 2x + 3$ $3x - 9y = 18$



For 2 to 5, find the slope and y-intercept of each pair of lines then tell if the system of equations has ONE SOLUTION, NO SOLUTION, or MANY SOLUTIONS.

2. $y = 8x + 7$
   $8x - 2y = 14$

3. $y = -6x + 5$
   $18x + 3y = 15$

4. $y = 2x + 7$
   $y + 1 = 2(x - 3)$

5. $y = 4x + 7$
   $y = -\frac{1}{4}x + 9$

6. You are trying to decide between two health clubs to join. One club charges a $98 sign-up fee then $12 per month. The other club charges a $50 sign-up fee then $15 per month. After how many months will the total charges for the two clubs be the same?

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ANSWERS

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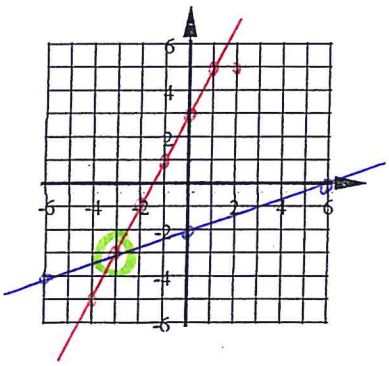

Sol: $(-3, -3)$

x-int = 6
y-int = -2

For 2 to 5, find the slope and y-intercept of each pair of lines then tell if the system of equations has ONE SOLUTION, NO SOLUTION, or MANY SOLUTIONS.

2. $y = 8x + 7$ $m = 8$ — ONE SOL
   $8x - 2y = 14$
   $y = \frac{14 - 8x}{-2} = -7 + 4x$
   $m = 4$

3. $y = -6x + 5$ — MANY SOL
   $18x + 3y = 15$
   $y = \frac{15 - 18x}{3} = 5 - 6x$

4. $y = 2x + 7$ — NO SOL
   $y + 1 = 2(x - 3)$
   $y = 2x - 7$

5. $y = 4x + 7$
   $y = -\frac{1}{4}x + 9$ — ONE SOL

6. You are trying to decide between two health clubs to join. One club charges a $98 sign-up fee then $12 per month. The other club charges a $50 sign-up fee then $15 per month. After how many months will the total charges for the two clubs be the same?

m = # MONTHS
T = TOTAL $

$T = 98 + 12m$
$T = 50 + 15m$

$98 + 12m = 50 + 15m$
$-12m \quad -12m$
$98 = 50 + 3m$

$\frac{48}{3} = \frac{3m}{3}$

$m = 16$ months