Review 2A

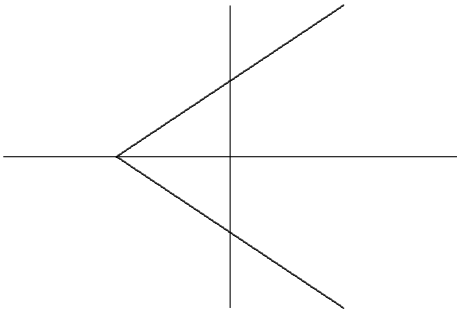
MAT 105 Show all of your work.

1. If each of the points is on the line $2x + 3y = 6$, find the missing coordinate.
   (a) $(0, \quad)$
   (b) $(\quad, 0)$
   (c) $(\quad, 1)$
   (d) $(-1, \quad)$
2. Find two points on the line $x + 2y = 5$ and sketch its graph.
3. Locate the x-intercept and y-intercept of the line $x + 2y = 6$ and sketch its graph.
4. Graph the line determined by the points $(5, 3)$ and $(7, -1)$ and find the slope of the line.
5. Write $4x = y + 2$ in slope–intercept form. Find the slope and y-intercept and draw the graph of the line.
6. Find the equation of the line with slope $m = \frac{1}{2}$ passing through $(4, 3)$. (put your answer in slope-intercept form)
7. Find the equation of the line which passes through the points $(1, 2)$ and $(-2, 5)$. (put your answer in slope-intercept form)
8. Find the equation of the line parallel to the line $y = 3x - 2$ which passes through the point $(3, 0)$. (put your answer in slope-intercept form)
9. Find the equation of the line perpendicular to $x - 2y = 1$ which passes through the point $(3, -4)$. (put your answer in slope-intercept form)
10. Graph the inequality $2x - 4y < 6$.
11. State the domain and range of the relation

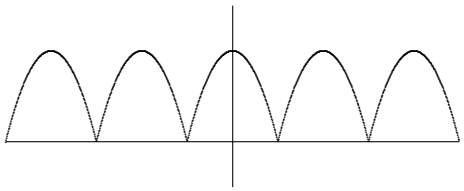
    $$\{(-1, 4), (2, 3), (-4, 5), (2, -5)\}.$$

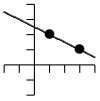
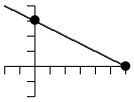
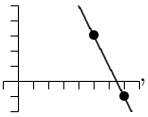
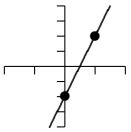
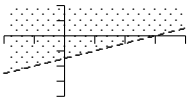
    Is this relation a function?
12. Use the vertical line test to determine whether or not the following graphs represent functions

(a)



(b)



Answers to problems above: 1. (a) $(0, 2)$, (b) $(3, 0)$, (c) $(\frac{3}{2}, 1)$, (d) $(-1, \frac{8}{3})$ 2. $(1, 2)$ and $(3, 1)$  3. x-intercept is $(6, 0)$ and y-intercept is $(0, 3)$  4.  , $m = -2$ 5. $y = 4x - 2$, $m = 4$, $b = -2$,  6. $y = \frac{1}{2}x + 1$ 7. $y = -x + 3$ 8. $y = 3x - 9$ 9. $y = -2x + 2$ 10.  11. Domain $= \{-1, 2, -4\}$, Range $= \{-5, 3, 4, 5\}$, Not a function 12. (a) not a function, (b) function

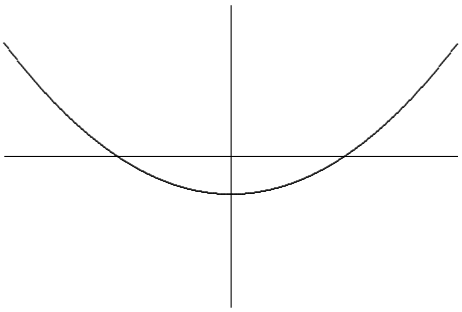
Review 2B

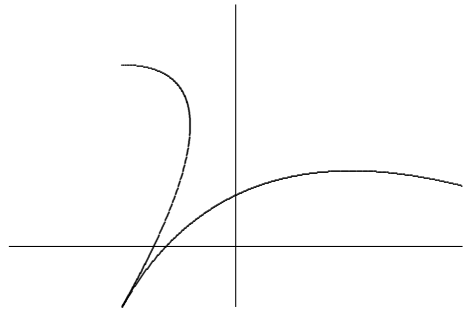
MAT 105 Show all of your work.

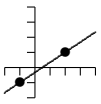
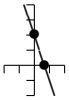
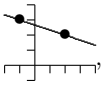
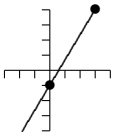
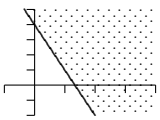
1. If each of the points is on the line $x - 3y = 3$, find the missing coordinate.
   (a) $(0, \quad)$
   (b) $(\quad, 0)$
   (c) $(\quad, 1)$
   (d) $(-2, \quad)$
2. Find two points on the line $2x - 3y = 1$ and sketch its graph.
3. Locate the x-intercept and y-intercept of the line $3x + y = 2$ and sketch its graph.
4. Graph the line determined by the points $(-1, 3)$ and $(2, 2)$ and find the slope of the line.
5. Write $5x - 3y = 3$ in slope–intercept form. Find the slope and y-intercept and draw the graph of the line.
6. Find the equation of the line with slope $m = 3$ passing through $(-4, 1)$. (put your answer in slope-intercept form)
7. Find the equation of the line which passes through the points $(3, -2)$ and $(-2, -1)$. (put your answer in slope-intercept form)
8. Find the equation of the line parallel to $4x - 2y = 1$ which passes through the point $(3, -4)$. (put your answer in slope-intercept form)
9. Find the equation of the line perpendicular to $y = 2x - 4$ which has y-intercept $y = -3$. (put your answer in slope-intercept form)
10. Graph the inequality $3x + y \geq 4$.
11. State the domain and range of the relation

$$\{(0, 0), (2, 3), (4, -5), (-2, -5)\}.$$

    Is this relation a function?
12. Use the vertical line test to determine whether or not the following graphs represent functions

(a) 

(b) 

Answers to problems above: 1. (a) $(0, -1)$, (b) $(3, 0)$, (c) $(6, 1)$, (d) $(-2, -\frac{5}{3})$ 2. $(-1, -1)$ and $(2, 1)$  3. x-intercept is $(\frac{2}{3}, 0)$ and y-intercept is $(0, 2)$  4.  , $m = -\frac{1}{3}$ 5. $y = \frac{5}{3}x - 1$, $m = \frac{5}{3}$, $b = -1$,  6. $y = 3x + 13$ 7. $y = -\frac{1}{5}x - \frac{7}{5}$ 8. $y = 2x - 10$ 9. $y = -\frac{1}{2}x - 3$ 10.  11. Domain $= \{-2, 0, 2, 4\}$, Range $= \{-5, 0, 3\}$, Is a function 12. (a) function, (b) not a function.