Exam 4 Review
130B

1. Graph \(2x - y = 4\). Find the x-intercept, y-intercept, and slope.

4. Graph \(y = \sqrt{x}\). Find the x-intercept and y-intercept.

2. Graph \(y = -x^2 + 4x - 3\). Find the x-intercept and y-intercept.

5. Is the following set of ordered pairs a function? Find the domain and range. 
\{ (-2,1), (1,0), (-3, -4), (1,3) \}

6. Determine if the following is a function. Find the domain.
   a) \(y = x^2 - 3\)
   b) \(y = \frac{1}{\sqrt{x}}\)
   c) \(y = \sqrt{x} - 2\)
   d) \(x = y^2\)

3. Graph \(y = x^3 - 1\). Find the x-intercept and y-intercept.

7. Find the slope of the line through the points (4,1) and (-1, 11)

8. Find the equation of the line in slope-intercept form.
   a) \((-2, 7), m = -2\)
   b) \((6, -3), m = \frac{1}{3}\)
   c) \((-6, 2)\) and \((4, -3)\)
   d) \((5, -3)\) and \((14, -3)\)

9. Find the equation of the line passing through \((-1, 4)\) and parallel to \(3x - y = 4\).

10. Find the equation of the line passing through \((9,5)\) and perpendicular to \(y = -\frac{3}{2}x - 4\).
11. Solve the system by graphing.
\[ \begin{align*}
  y &= x^2 - 2x + 3 \\
  x + y &= 5
\end{align*} \]

12. Solve the system by the substitution method.
\[ \begin{align*}
  2x - y &= 1 \\
  x + y &= -4
\end{align*} \]

13. Solve the system by the addition method.
\[ \begin{align*}
  8x - 3y &= 13 \\
  5x - 4y &= 6
\end{align*} \]

14. Solve the system by the addition method.
\[ \begin{align*}
  2x + 3y - z &= 11 \\
  x + 2y + z &= 12 \\
  3x - y + 2z &= 5
\end{align*} \]

15. Graph $3x - y \geq 1$

16. Solve the system by graphing.
\[ \begin{align*}
  -2x + 3y \leq 3 \\
  3x - 2y \leq -2
\end{align*} \]

17. The total number of students in a class is 39. If the total number of men is five less than three times the number of women in the class, find the number of men and women in the class.

18. A book club sold books for $5 and $8 per book. If they sold 42 books for a total of $285, how many $5 books and $8 books did they sell.