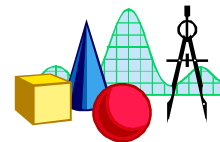




# MATH DEPT. TUTORIAL 4



## **Tutorial 4:** Linear and quadratic equalities and inequalities, completing the square, quadratic formula.

- Graph each of the following parabolas
  - $y = 2x^2 + 4x + 5$
  - $y = -3x^2 + 6x - 1$
  - $y = x^2 + 4x$
- Solve each of the following equations.
  - $3 + 2n = 5n + 7$
  - $2x + 1 = 3x + 5$
  - $x - (2x + 1) = 3x - 10$
  - $\frac{6t + 1}{4t - 1} = \frac{3t + 8}{2t - 4}$
- Find the solutions to each of the following equations by completing the square.
  - $x^2 - 4x + 2 = 0$
  - $2x^2 + 5x + 3 = 0$
  - $3x^2 - 2x - 2 = 0$
- Find the solutions to each of the following equations by using the quadratic formula.
  - $x^2 + 6x + 1 = 0$
  - $4t^2 + t + 1 = 0$
  - $3x^2 - 2x - 2 = 0$
- Solve each of the following inequalities. Graph the solution set.
  - $2x - 2 < 3 + x$
  - $2x - 3 < x - 1 < 2x + 2$
  - $x^2 + x - 12 < 0$
  - $2x^2 < 5x + 3$
  - $x(x - 7) > 8$
  - $\frac{1}{x + 2} > \frac{3}{x + 1}$