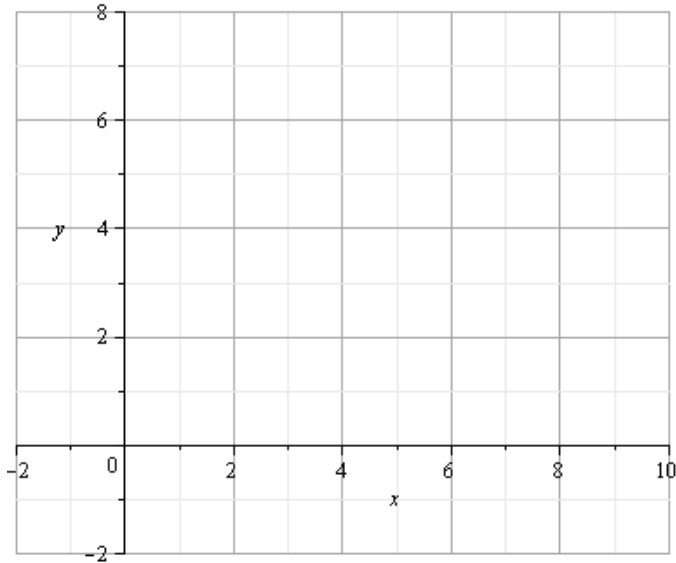1. Let $f(x) = -\dfrac{3}{2}x + 5$ in the following:

    a. (4 pts) Determine the slope and y-intercept of f.

    b. (4 pts) Use the slope and y-intercept to graph f here:

    c. (4 pts) What's the x-intercept of f?
    d. (4 pts) Is f increasing, decreasing or constant?

2. Compute the discriminant for the following quadratic functions. Find how many zeroes does h have, and whether they are real, nonreal, one of each, or what have you.

    a. (4 pts) $h(x) = 4x^2 - 12x + 13$

    b. (4 pts) $h(x) = 3x^2 - 5x - 5$

3. Let $f(x) = 15x^2 + 8x - 12$.

    a. (4 pts) Find the zeros of f by factoring.

    b. (4 pts) Find the zeros of f by quadratic formula.

(4 pts) Find the zeros of $f(x) = x^2 + 6x - 35$ by completing the square.

4. (20 pts) Complete the square for $f(x) = x^2 - 6x + 2$, and re-write it in the form $a(x-h)^2 + k$. Sketch its graph, based on your work. Label the vertex, axis of symmetry, and x- and y-intercepts on your graph. State the range of f.

5. (10 pts) Find the complex zeros of $f(x) = 9x^2 - 12x + 13$. Leave your answer in simplified radical form (no calculator stuff). (**5 bonus points if you solve it by completing the square**)

6. (10 pts) Solve $15x^2 < -8x + 12$. Express your answer in both set-builder and interval notation. You've already done about half the work on this one, in #3, on page 2.

Solve the absolute value equations and inequalities. (4 pts each).

7. $|7x - 5| \leq 1$ 8. $|7x - 5| > 1$

9. $|7x + 4| = 3$ 10. $|7x - 5| = -1$ 11. $|7x - 5| \leq -1$ 12. $|7x - 5| \geq -1$