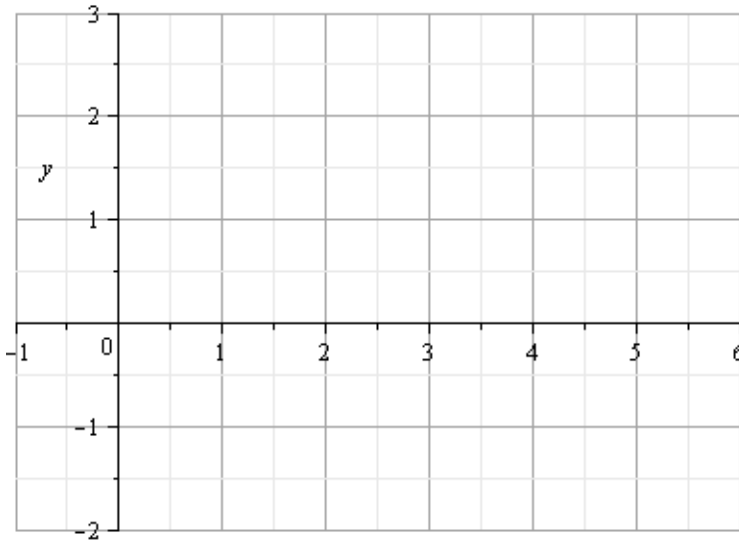


1. Let $f(x) = -\frac{3}{5}x + 2$ in the following:

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) Find 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) $h(x) = 5x^2 - 3x + 2$

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

3. Let $f(x) = 6x^2 - 13x + 6$.

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

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

c. (4 pts) Find the zeros of $f(x) = x^2 + 6x - 5$ by completing the square.

4. (20 pts) Complete the square for $f(x) = x^2 - 10x + 21$, 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 $f(x) = 4x^2 - 12x + 10$. 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 $6x^2 + 13x \geq 6$. 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). Same work for 7 – 9. Just interpret the results, differently.

7. $|3x - 5| = 2$

8. $|3x - 11| < 7$

9. $|3x - 11| \geq 7$

10. $|3x - 11| \geq -7$

11. $|3x - 11| \leq -7$

12. $|3x - 11| = -7$