

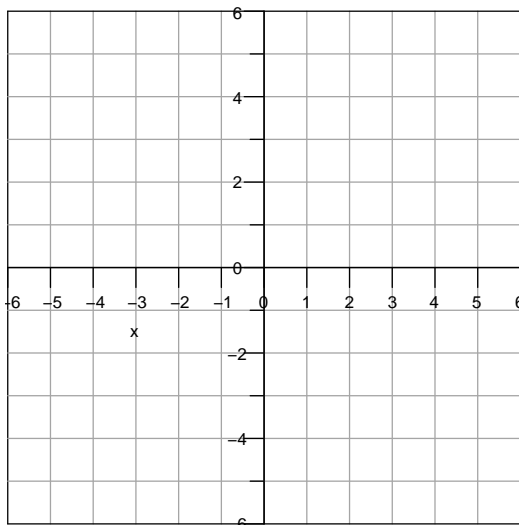
Math 1050 Section 4 Midterm 2

Name _____

1. (6 points) Let $f(x) = x^2 - 6x + 10$.

(a) Put f in standard form:

(b) Plot f , labelling the vertex.



2. (7 points) Give the partial fraction expansion of $\frac{3x^2+3x+4}{x(x^2+x+2)}$.

3. (6 points) Factor $f(x) = x^3 - 2x^2 - 5x + 6$ into a product of linear factors.

4. (10 points) Solve the following system of equation using an augmented matrix:

$$\begin{aligned}x - y - z &= -1 \\3x - 2y + z &= 2 \\-x + y + 2z &= 3\end{aligned}$$

5. (5 points) You invest \$500 at an annual interest rate of 8%. How long until you have \$1500 if your interest is compounded quarterly? (give your answer exactly)

6. (4 points) Solve $\log_2 5 + \log_2(x - 2) = \log_2(x + 2)$.

7. (12 points) Sketch the graph of $f(x) = \frac{x^2-2x+1}{x+1}$. Plot all asymptotes, and zeros. Make a table with the test intervals, representative points, and functional values at those points.

