

Review Homework

Math 116

Exercises 1-4 due Monday
Exercises 5-8 due Wednesday

1. (10 points) Solve for x : $x^2 - 4x + 7 = 0$. Simplify your answer as much as possible. Check by substitution.
2. (20 points) Give the quotient and remainder if $x^4 + x^3 - 7x^2 + 8x + 1$ is divided by $x^2 + 3x - 2$. Check your answer by remultiplying and adding the remainder.
3. (15 points) Carefully graph the lines $3x + 2y = 8$ and $6x - 4y = 3$ below. Find the exact coordinates of their points of intersection algebraically, and check your answer by substitution in the given equations.
4. (10 points) What is the largest set of real numbers on which the function whose rule is $f(x) = \frac{2x+5}{x+1}$ is defined. Solve the equation $f(x) = y$ for x .
5. (10 points) If $f(x) = -4x^2 + 6x - 4$, compute $f(-7 + 5i)$.
6. (10 points) Find a and b such that $x^2 + 10x + 15 = (x + a)^2 + b$.
7. (10 points) Solve for x and plot your answer on a number line: $|-2x + 1| \geq 3$.
8. (15 points) Given the two points $P = (8, -3)$ and $Q = (-2, 5)$. Find the distance between P and Q. Find the midpoint. Find the equation of the circle with the segment PQ as its diameter.