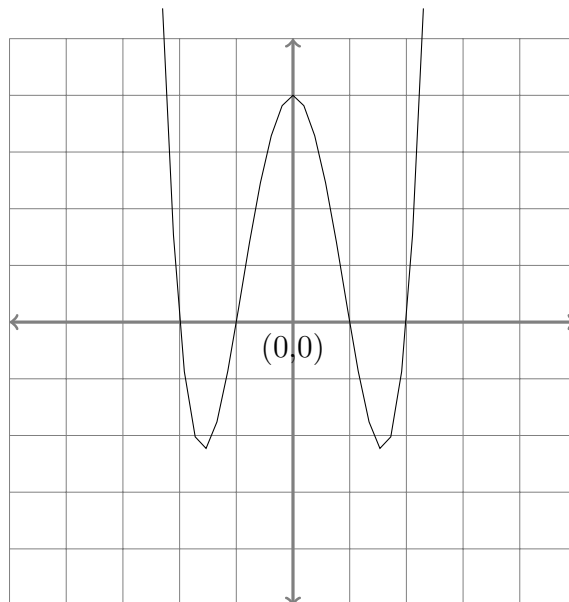


San José State University
Fall 2015
Math-8: College Algebra
Section 03: MW noon–1:15pm
Section 05: MW 4:30–5:45pm

Quiz #11 (Take-home)

You may use your book, notes, and homework, but please do not work together or ask for help from others.

1. Consider the following graph of a polynomial function, where each grid line represents 1 unit:



What is the remainder when the polynomial is divided by $(x - 2)$? Why?

2. Without doing the long (or synthetic) division, what is the remainder when $x^4 - 2x^3 - 7x^2 + 8x + 12$ is divided by $(x + 2)$? Why?

3. Divide $x^2 + 1$ into $x^5 - 3x^2 + 2x - 1$. Be sure to express the answer completely.

4. Express the answer in (4) per the division algorithm.

5. Sketch the graph of $f(x) = x^4 - 2x^3 - 7x^2 + 8x + 12$, showing all x and y intercepts, and behavior as $x \rightarrow \pm\infty$. For full credit, show how you determined the intercepts and behavior, and how you determined the sign of the function in between the x -intercepts.