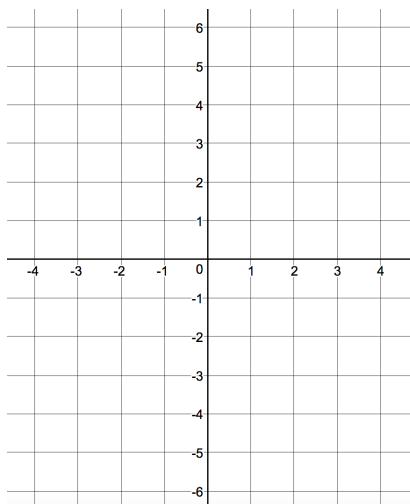
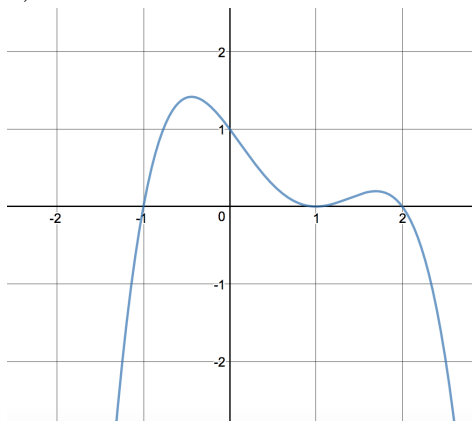


1. Given the following information about a 5th degree polynomial, sketch a graph and find its equation. $f(-2) = 0$, $f(-1) = 0$, $f(1) = 0$, $f(2) = 0$, and $f(0) = -1$, and the zero at $x = -1$ has multiplicity two.

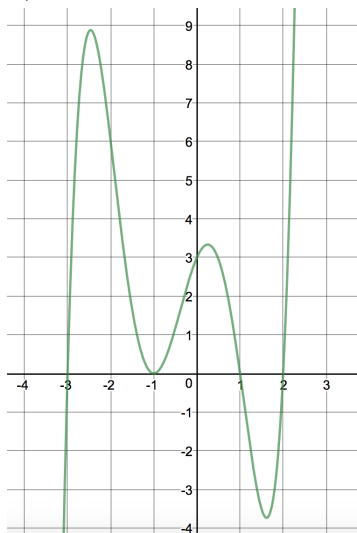


2. Given the following graphs of polynomials, find the function that matches the graph. First, list all zeros with multiplicity, then use another point on the graph to find the leading coefficient.

a)



b)



3. Answer the following about each polynomial below.

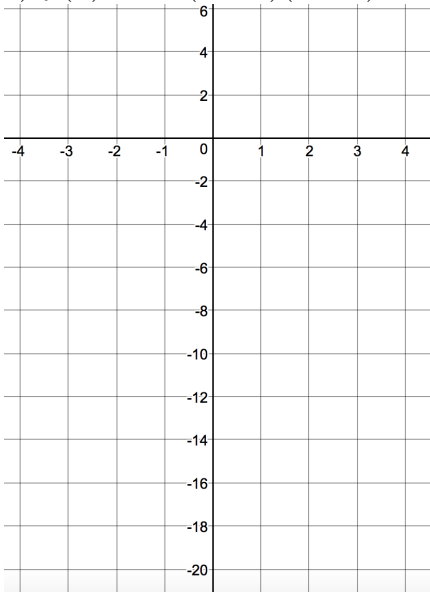
a) Determine the end behavior: what happens to $f(x)$ as $x \rightarrow \infty$? As $x \rightarrow -\infty$?

b) Find all x and y intercepts of the function.

c) Determine the zeros and their multiplicities. What do the graph look like at these points?

d) Use your answers to sketch a graph of the polynomial.

a) $f(x) = -2(x + 2)(x - 2)^2$



b) $g(x) = x^3(x^2 - 4)$

