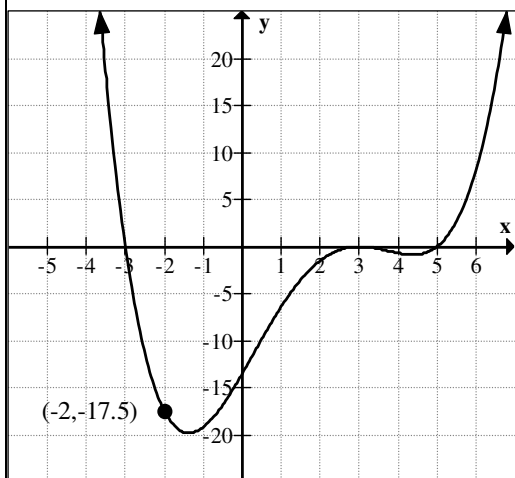
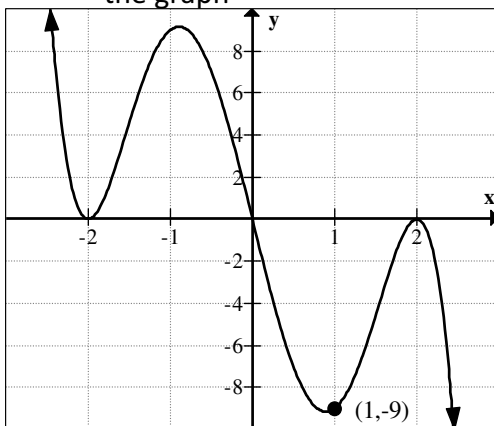


4) Give a possible formula for the graph

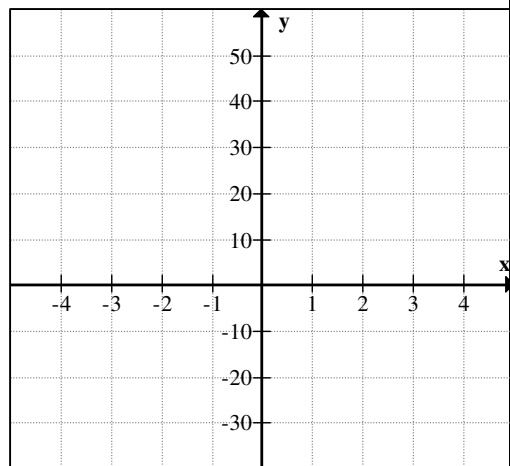


5) Give a possible formula for the graph



6)

Let $f(x) = (x^2 - 9)(x^2 - 2x - 3)$
Make a graph of $y = f(x)$ without a calculator.



For problems 7-12, form a polynomial function whose real zeros and degree are given. Answers will vary depending on the choice of a leading coefficient.

7) Zeros: -1, 1, 3 ; degree 3

8) Zeros: -2, 2, 3 ; degree 3

9) Zeros: -3, 0, 4 ; degree 3

10) Zeros: -4, 0, 2 ; degree 3

11) Zeros:
-2 with multiplicity 2,
4 with multiplicity 1
degree 3

12) Zeros:
-1 with multiplicity 1
3 with multiplicity 2
degree 3

End behavior refers to what happens to a graph for very large values of x . For the general polynomial described at the top of the front page, the graph would “behave” like $a_n x^n$ for very large values of x .

What is the end behavior of $f(x) = 2x^3 - 11x^2 + 12x + 9$?

Answer: For very large values of x , the graph of f behaves like $y = 2x^3$

What is the end behavior of $f(x) = 4x^5 + 12x^3 + 2x - 5$?

Using a graphing calculator, find all min/max points and x/y intercepts of $f(x) = x^3 + 0.2x^2 - 1.587x - 0.31752$