

1. Which of the graphs in Figure 2 could be the graph of

$$f(x) = x^4 + 5x^3 + 5x^2 - 5x - 6?$$

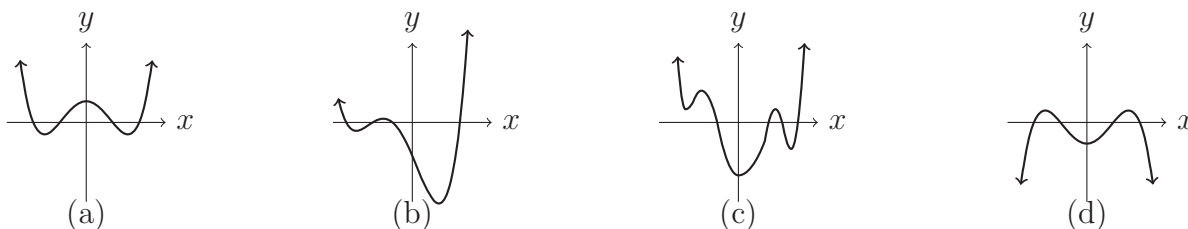


Figure 2

2. Use your calculator to graph $f(x) = x^3 + 2.48x^2 - 4.3155x + 2.484406$ and then use it to answer the following questions.

- a. What is the degree of the polynomial?
What basic function does it most resemble?
- b. How many turning points, at most, does f have?
- c. What are the zeros of f and the multiplicity of each?
- d. Where is f positive and where is it negative?
- e. What are the x - and y -intercepts of f ?
- f. What are the turning points of f ?
- g. What and where are any local maxs and mins?
- h. Where is f increasing and where is it decreasing?

3. Given the graph shown below in Figure 1, answer the following questions.

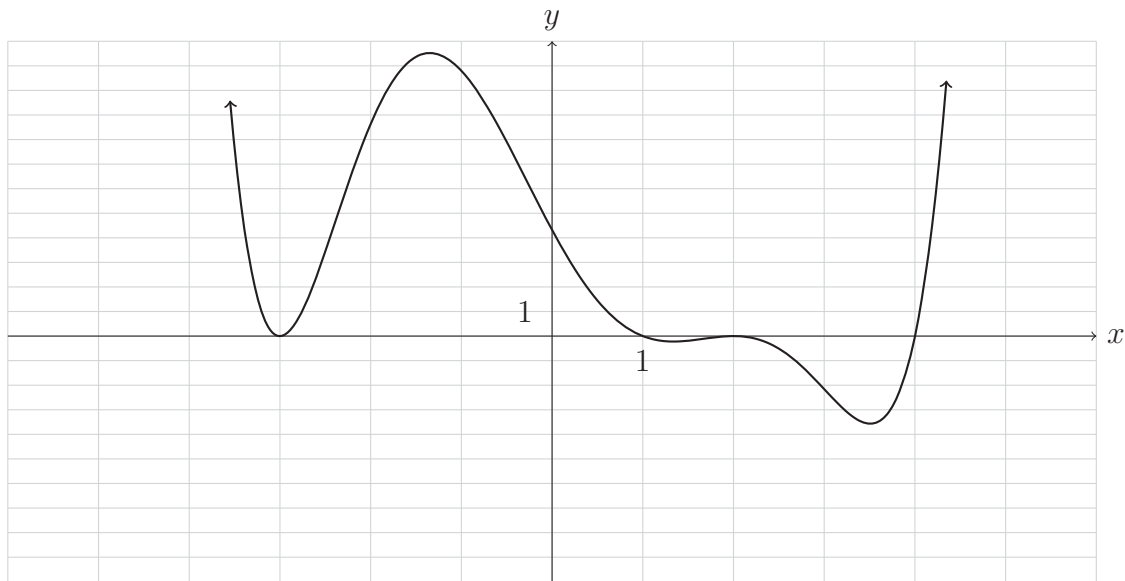


Figure 1: $y = f(x)$

- a. What are the zeros of f and what is the multiplicity of each?
- b. How many turning points are there? What degree polynomial is this most likely?
- c. Where is f positive and where is it negative?
- d. Where is f increasing and where is it decreasing?
- e. What and where are the local mins and maxs?
- f. Is there an absolute max or min? If so what and where?
- g. Where is f concave up and where is it concave down?
- h. What is the symbolic representation of the function f ?