1 What if x-intercepts aren’t the only thing important about a graph? Consider the function (1/6)x6-2x4+8x2-20. Knowing that the only zeros are ±2.8…, sketch a graph from -3.5 to 3.5 , with a y-scale of 2:1

2 Find the first derivative. Factor it completely.

3 Sketch a graph of f’(x)

4 When if f’(x) positive? Negative? 0?

What is f(x) at those moments?

5 Find f’’(x). Factor it completely

6 Sketch a graph of f’’(x).

7 When is f’’(x) negative? Positive? 0?

What is f’(x) at those moments? What is f(x) then?

8 Make a table of all the times the derivative or the second derivative is zero and record the sign of the others.

9 Make a rule what happens when the first derivative is 0, with the cases being what the sign of the second derivative is

10 Describe in your own words what you think the point of this problem set is.