

Algebra and Calculus Worksheet 6

October 26, 2015

1. Section 3.2 - 11

Find the end behavior of the function, and graph it.

$$-x^5 + 5x^3 - 4x$$

2. Section 3.2 - 17

Sketch the graph, showing intercepts and proper end behavior.

$$-x(x - 3)(x + 2)$$

3. Section 3.2 - 21

Sketch the graph, showing intercepts and proper end behavior.

$$(x + 2)(x + 1)(x - 2)(x - 3)$$

4. Section 3.2 - 31

Factor the polynomial to find zeroes, then sketch the graph.

$$x^3 - x^2 - 6x$$

5. **Section 3.2 - 51**

Graph the polynomial and state the x- and y-intercepts, and all local extrema.

$$x^3 - x^2 - 6x$$

6. **Section 3.3 - 5**

Use synthetic or long division to divide the two polynomials.

$$4x^2 - 3x - 7 \text{ by } 2x - 1$$

7. **Section 3.3 - 11**

Use long division to divide the two polynomials.

$$2x^3 - 3x^2 - 2x \text{ by } 2x - 3$$

8. **Section 3.3 - 23**

Use long division to divide the two polynomials.

$$x^6 + x^4 + x^2 + 1 \text{ by } x^2 + 1$$

9. **Section 3.3 - 27**

Use synthetic division to divide the two polynomials.

$$3x^2 + x \text{ by } x + 1$$

10. **Section 3.3 - 31**

Use synthetic division to divide the two polynomials.

$$x^3 - 8x + 2 \text{ by } x + 3$$