

**Lesson #11 A: Understanding Polynomials and Dividing Polynomials Using Synthetic Division
(Reference: Lesson #51 in book)****Problem**

1. Divide each of the following polynomials using Synthetic Division Method and write your final answer in standard form.

1. $(2x^3 - 13x^2 + 17x - 10) \div (x - 5)$

2. $(2x^3 - x^2 - 5x + 2) \div (x - 1)$

3. $(x^4 - 3x^3 - 11x^2 + 5x + 17) \div (x + 2)$

4. $(-2x^5 + 2x^4 + 2x^3 - 3x^2 - 4x - 1) \div (x - 3)$

5.
$$\frac{(3x^6 - x^5 + 2x^4 + 3x^3 + x^2 - 2x - 1)}{x + 1}$$

6.
$$\frac{(-x^4 - 3x^3 + 3x^2 - 4x - 5)}{x + 3}$$

7.
$$\frac{(x^4 + 2x^2 + 3x - 2)}{x - 3}$$

8.
$$\frac{(-5x^4 + 5x^3 + 3x - 1)}{x - 1}$$

9.
$$\frac{(2x^6 + 5x^5 - x^4 - x^3 - 5x^2 - 2)}{x + 4}$$

10.
$$\frac{(-2x^5 - x^3 + 5x + 1)}{x + 1}$$

11. $(x^5 - 3x^3 - 4x - 1) \div (x - 1)$

Name: _____

ID: A

12. $(-x^5 + 1) \div (x + 1)$

13. $(3x^3 - 5x^2 + 4x + 2) \div (3x + 1)$

14. $(8x^3 - 4x^2 - 14x + 15) \div (2x + 3)$

15. $\frac{8x^3 - 10x^2 - x + 3}{2x + 1}$