

Name: _____ Date: _____ Block: _____

6.1-6.2 Classwork

Directions: Show all of your work in the space provided or on a separate sheet of paper for full credit. You must indicate the “like terms” in the problem for the first two sets. This is due by the end of the class period today. No exceptions.

6.1 Polynomial Operations: Perform the indicated operation. All answers should be written in standard form.

1. Add. $(4x^2 - 6x + 7) + (-19x^2 - 15x - 18)$	2. Subtract. $(-18x^2 + 4x - 16) - (15x^2 + 4x - 13)$
3. Divide. $\frac{x^4 + 3x^3 + 7x}{x}$	4. Multiply. $(x - 2)(x^2 - x + 3)$
5. Multiply. $(2x - 5)(5x^2 + 4x + 7)$	6. Subtract. $(3x^3 + 3x^2 + 9) - (5x^3 - 7x^2 + 6x - 9)$
7. Add. $(-4x + 4x^3 + 7) + (3x^3 - 9x^2 - 3x)$	8. Divide. $\frac{20x^4 + 15x^2}{5x^2}$

6.2 Synthetic Division: Use the examples below to help you divide the polynomials using synthetic division on the practice problems.

No Missing Terms in Numerator	Missing Terms in Numerator
<p>Example 1: <i>(With a Remainder $\neq 0$)</i></p> $\frac{3x^3 - 2x^2 - 7x + 6}{x + 1}$ <p>Example 2: <i>(With a Remainder = 0)</i></p> $\frac{3x^3 + 17x^2 + 6x - 20}{x + 5}$	<p>Example 3:</p> $\frac{5x^3 - 3x^2 - 6}{x - 1}$ <p>Example 4:</p> $\frac{x^3 + 5}{x + 2}$

Practice:

$\frac{4x^3 - 10x^2 - 11x + 16}{x - 4}$	$\frac{x^3 - 2x + 1}{x + 1}$
$\frac{x^3 - 5x^2 - 13x - 1}{x - 7}$	$\frac{x^2 + 7x + 13}{x + 4}$
$\frac{2x^4 + 2x^3 - 12x^2 + x + 6}{x + 3}$	$\frac{2x^3 - 5x - 7}{x - 2}$

