Unit 3

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_

Day 5

**Assignment: Dividing Polynomials Using Synthetic Division**

**Divide using synthetic division.**

1. $\left(7x^{2}-23x+6\right)÷\left(x-3\right)$ 2. $\left(x^{2}+x-42\right)÷\left(x+7\right)$

3. $\left(4x^{2}+5x+1\right)÷\left(x+1\right)$ 4. $\left(x^{2}-18x+14\right)÷\left(x-1\right)$

5. $\left(x^{4}-5x+10\right)÷\left(x+3\right)$ 6. $\left(2x^{2}+3x-20\right)÷\left(x-2\right)$

7. $\left(6x^{3}-14x^{2}+10x-4\right)÷\left(x-1\right)$ 8. $\left(x^{4}+6x^{3}+6\right)÷\left(x+5\right)$

9. $\left(7x^{4}+6x^{2}-1\right)÷\left(x+3\right)$ 10. $\left(x^{4}-7x^{3}+9x^{2}-22x+25\right)÷\left(x-6\right)$

**Review:** Simplify.

11. $\left(5x-7y\right)+(6x+8y)$ 12. $-4c^{2}d^{3}(5cd^{2}+3c^{2}d)$