Lesson 4.3 Name_____ Period_____

Divide Using Synthetic Division.

1. $3x^3 - 7x^2 + 6x + 8 \div x - 1$

2. $2x^3 - x - 7 \div x + 3$

3. $\left(x^2 + 6x + 1\right) \div \left(x - 3\right)$

4. $\left(3x^2 - 11x - 4\right) \div \left(x - 1\right)$

5. $\left(x^3 - 2x + 6\right) \div \left(x + 3\right)$

6. $\left(x^2 + 25\right) \div \left(x - 5\right)$

Use synthetic division to evaluate the function for the indicated value of x.

7. $f(x) = 4x^3 - 2x^2 - 5x + 11$ when $x = -2$

8. Find $f(2)$ when $f(x) = -3x^4 + 2x^3 - 12x - 6$.

9. $f(x) = -x^2 - 7x + 18;\ x = -2$

10. $f(x) = 2x^2 - 3x + 6;\ x = 5$

11. $f(x) = x^3 + 2x^2 - 3x + 4;\ x = -1$

12. $f(x) = x^3 + 2x^2 - 5x + 12;\ x = -3$