Name: _____

Polynomials and Synthetic Division

Exercise 1: Specify the quotient and the remainder after dividing $f(x)$ by $g(x)$.

1) $f(x) = x^2 + x + 7$; $g(x) = x - 1$

2) $f(x) = 4x^2 + 3x - 11$; $g(x) = x - 3$

3) $f(x) = 7x^2 + 5x + 12$; $g(x) = x + 8$

4) $f(x) = x^2 + 9x - 3$; $g(x) = x + 2$

5) $f(x) = x^2 + 6x - 14$; $g(x) = x + 5$

6) $f(x) = x^2 - 2x + 45$; $g(x) = x + 9$

7) $f(x) = x^5$; $g(x) = x^2 - 2$

8) $f(x) = x^6$; $g(x) = x^2 - x$

9) $f(x) = x^4 - 3$; $g(x) = x^2 + 2$

10) $f(x) = x^4 - x^2 + 11$; $g(x) = x + 1$

11) $f(x) = 13x^2 + 25x - 47$; $g(x) = x - 6$

12) $f(x) = x^4 + 4x^3 - 5x + 13$; $g(x) = x^2 + 3x + 7$

13) $f(x) = x^4 - x^3 + 7x - 10$; $g(x) = x^2 - 3x - 2$

14) $f(x) = 2x^4 + 3x^3 + 2x + 3$; $g(x) = x^2 + x + 2$