

Name: _____ Hour: _____

Compare your answer in (a) to your remainder in (b). **Show all work.**

1. Consider the following polynomial function: $f(x) = 3x^2 - 5x + 10$

a. Find $f(4)$

b. Use synthetic division to divide $f(x)$ by $(x - 4)$

2. Consider the following polynomial function: $g(x) = x^3 - 5x^2 - 7x + 1$

a. Find $g(-2)$

b. Use synthetic division to divide $g(x)$ by $(x + 2)$

3. Consider the following polynomial function: $h(x) = 2x^4 - 6x^3 + 15x^2 + 9x - 3$

a. Find $h(3)$

b. Use synthetic division to divide $h(x)$ by $(x - 3)$

4. Consider the following polynomial function: $k(x) = 2x^6 - x^5 + x^3 - 5x^2 + x + 7$

a. Find $k(2)$

b. Use synthetic division to divide $k(x)$ by $(x - 2)$