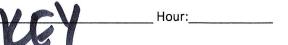
Compare your answer in (a) to your remainder in (b). Show all work.



- 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)

$$\frac{1}{3} - \frac{5}{10} = \frac{10}{28}$$

$$\frac{1}{3} + \frac{30}{30}$$

$$(3 \times -7) + \frac{30}{20}$$

- 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)

$$\frac{3}{2} \frac{2}{5} \frac{-6}{0} \frac{15}{9} \frac{9}{162}$$

$$\frac{2}{2} \frac{15}{0} \frac{59}{159} \frac{159}{159}$$

$$\frac{3}{2} \frac{15}{2} \frac{15}{15} \frac{9}{15} \frac{159}{159}$$

$$\frac{3}{2} \frac{3}{15} \frac{15}{15} \frac{9}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{9}{15} \frac{9}{15} \frac{15}{15} \frac{9}{15} \frac{9}{15$$

- 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)