

## Rational Root Theorem Worksheet

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

**Find all zeros.**

1)  $f(x) = 5x^3 - 3x^2 - 10x + 6$

2)  $f(x) = 5x^3 + x^2 - 5x - 1$

3)  $f(x) = 4x^3 - 16x^2 - 3x + 12$

4)  $f(x) = 3x^3 + 7x^2 + 5x + 1$

$$5) y = x^3 + x^2 - 11x - 3$$

$$6) y = x^4 - 4x^3 + 2x^2 + 8x - 8$$

**Divide using long division.**

$$7) (5k^4 - 3k^3 - 7k^2 - 27k - 8) \div (5k + 2)$$

**Evaluate each function using the remainder theorem.**

$$8) f(a) = a^5 + 3a^4 - a^3 - a^2 + 4a - 5 \text{ at } a = -3$$