

NAME: _____ Score _____/10

Please **print** your name

1. What are the possible rational zeros of the polynomial function whose rule is $f(x) = 3x^5 + 8x^3 + 4x + 5$.

$$p \in \{ \quad \quad \quad \}$$

$$q \in \{ \quad \quad \quad \}$$

$$\frac{p}{q} \in \{ \quad \quad \quad \}$$

2. What is the horizontal asymptote for the rational function whose rule is $f(x) = \frac{3x^4 + 2x^3 - 4x + 2}{7x^4 + 9}$.

3. What are the vertical asymptotes of the rational function whose rule is $f(x) = \frac{x^4 + 2}{(x - 1)(x + 3)}$.

4. What are the x-intercepts of the rational function whose rule is $f(x) = \frac{3x - 2}{x^2 + 5x + 6}$.

5. Consider the function whose rule is $f(x) = (x-4)^3(x+3)$. What are the zeros and what are their multiplicities.

It seems as if no-one read the multiple page handout, or the textbook, or the Chapter summary or lecture notes that dealt with polynomial and rational functions.