

Name \_\_\_\_\_

Polynomial Graph – Test Review

Find all that apply: Vertical Asymptotes, Horizontal Asymptotes, Oblique Asymptotes, Roots, and Intermediate Value Tests. Then Graph!

1)  $f(x) = x^3 + 7x^2 + 10x$

2)  $f(x) = -x^3 + 5x^2 + 14x$

3)  $f(x) = \frac{2}{(x+4)^2}$

4)  $f(x) = \frac{x}{x^2 - 3x - 18}$

5)  $f(x) = \frac{x^2 - 10x + 25}{x^2 - 4x - 12}$

6)  $f(x) = \frac{3x^2 - 12x}{x^2 - 25}$

7)  $f(x) = \frac{x^2 - x - 2}{x - 1}$

8)  $f(x) = \frac{2x^2 - 5x + 5}{x - 2}$

9) Divide by Polynomial Long Division (the long way):

$$\frac{x^4 - 6x^3 - 2x^2 + 11x + 5}{x - 3}$$

10) Divide by Synthetic Division:

$$\frac{x^3 + 9x^2 - 11x - 5}{x + 4}$$

$$\frac{x^3 + 5x - 4}{x - 2}$$