

Study Sheet for Chapter 3

1. Graph. Label the vertex and all intercepts

a. $y = -2(x-4)^2 - 8$ b. $y = 2x^2 - 4x - 9$

2. Find $P(3)$ if $P(x) = 2x^3 - 5x^2 + 4x - 6$.

3. Is $x+4$ a factor of $P(x) = x^3 - 13x + 12$?

4. For $f(x) = 2x^3 - 3x^2 - 11x + 6$

a. List all possible rational zeros.

b. Find all rational zeros.

5. Graph each function

a. $f(x) = (x-1)^2(x-3)$

b. $y = x^3 + 2x^2 - 3x$

c. $f(x) = -x^3 + 1$

d. $f(x) = x^3 - 5x^2 + 7x - 3$

6. State the domain.

a. $f(x) = \frac{x-3}{x-1}$

b. $g(x) = \frac{2x-3}{x^2-4}$

7. Name all asymptotes, then graph.

a. $y = \frac{x}{x^2-4}$

b. $h(x) = \frac{2x+1}{x+3}$

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