Summary Chapter 5: Polynomial and Rational Functions

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Section 1:

Terminology

- Quadratic function
- Maximum value
- Minimum value

Be Able To

- Recognize characteristics of parabolas
- Understand how the graph of a parabola is related to its quadratic function
- Determine a quadratic function's minimum or maximum value
- Solve problems involving a quadratic function's minimum or maximum value
- **Apply the concepts**: Reference page 359 problems 66 - 75

Section 2:

Terminology

- Power function

Be Able To

- Identify power functions
- Identify polynomial functions
- Identify the degree and leading coefficient of polynomial functions
- **Apply the concepts**: Reference page 374 problems 66 - 70

Section 3:

Omitted

Section 4:

Terminology

- Long division
- Synthetic division

Be Able To

- Use long division to divide polynomials
- Use synthetic division to divide polynomials
- **Apply the concepts**: Reference page 401 problems 64 - 73

Section 5:

Omitted

Section 6:

Terminology

- Rational function
- Asymptote

Be Able To

- Find the domains of rational functions
- Use arrow notation
- Identify vertical asymptotes
- Identify horizontal asymptotes
- Identify slant asymptotes
- Use transformation to graph rational functions
- Graph rational functions
- **Apply the concepts**: Reference page 434 problems 80- 88

Section 7:

Terminology

- Inverse function

Be Able To

- Find the inverse of an invertible polynomial function
- Restrict the domain to find the inverse of a polynomial function
- **Apply the concepts**: Reference page 445 problems 56 - 65

Section 8:

Terminology

- Direct variation
- Inverse variation

Be Able To

- Solve direct variation
- Solve inverse variation
- **Apply the concepts**: Reference page 452 problems 51 - 57