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Unit 1: Numbers and Patterns 1

Broad Objectives: Focus on data. Set the stage for the course by addressing a range of study skills and student success issues. Work on number sense, encourage educated guesses, analyze data for patterns, and review some prerequisite material.

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Objective 1: Complete and analyze a weekly time chart.

Objective 2: Compute percentages.

Objective 3: Create and interpret pie charts using a spreadsheet and by hand.

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Objective 1: Identify and understand your learning style.

Objective 2: Create and interpret bar graphs using a spreadsheet and by hand.

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Objective 2: Practice addition and subtraction.

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Objective 4: Use Excel to compute sums.

Objective 5: Calculate the perimeter of rectangles and triangles.

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Objective 2: Interpret multiplication as repeated addition.

Objective 3: Refresh multiplication and division skills.

Lesson 1-7: Avoiding Empty Pockets (Using Exponents and Order of Operations) 53

Objective 1: Distinguish between simple interest and compound interest.

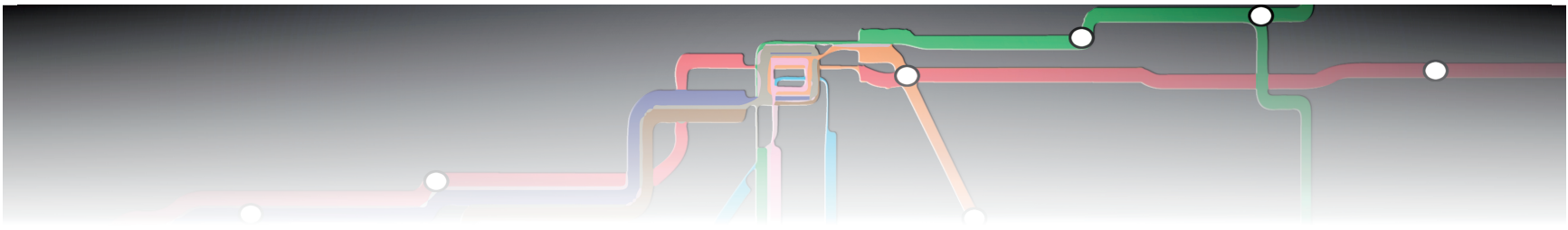
Objective 2: Interpret exponents as repeated multiplication.

Objective 3: Practice working with exponents and the order of operations.

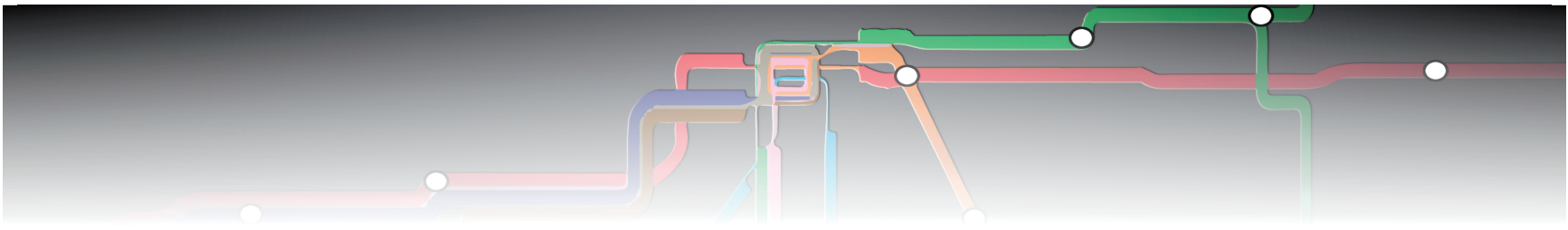
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Objective 1: Recognize patterns and use them to make predictions.

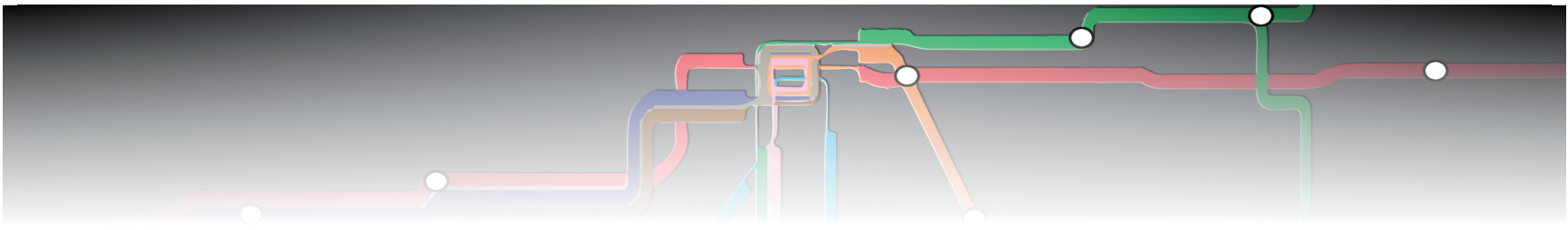
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Unit 4: Living in a Nonlinear World

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Broad Objectives: Expand to nonlinear relationships. Study normally distributed data, the Pythagorean theorem and distance formula, applications based on graphs of quadratic and exponential functions, quadratic and exponential regression, inverse variation, scientific notation, operations with polynomials, factoring (stressing the relationship between factors, x-intercepts, and solutions), and algebraic approaches to solving quadratic equations.

Lesson 4-1: Is That Normal? (Standard Deviation and Normal Distributions)

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- Objective 1: Compute and interpret standard deviation.
- Objective 2: Use a normal distribution to find probabilities.
- Objective 3: Recognize some common misuses of statistics.

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- Objective 1: Recognize when a graph is parabolic.
- Objective 2: Solve problems using the graph of a quadratic equation.

Lesson 4-4: Sit Back and Watch Your Money Grow (Exponential Growth Equations)

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- Objective 1: Revisit exponential growth.
- Objective 2: Solve problems using graphs representing exponential growth and decay.

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- Objective 1: Recognize inverse variation.
- Objective 2: Solve problems involving direct and inverse variation.

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- Objective 1: Write large and small numbers in scientific notation.
- Objective 2: Use scientific notation.

Lesson 4-7: Minding Your Business (Add, Subtract, and Multiply Expressions)

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- Objective 1: Combine expressions using addition, subtraction, and multiplication.
- Objective 2: Apply multiplication techniques to genetics.

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- Objective 1: Understand what factoring is and why it's useful in algebra.
- Objective 2: Use function notation.
- Objective 3: Study the connection between zeros and x intercepts.
- Objective 4: Factor expressions.

Lesson 4-9: Going...Going...GONE! (The Quadratic Formula and Max/Min)

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- Objective 1: Solve equations using the quadratic formula.
- Objective 2: Find the vertex of a parabola.
- Objective 3: Study physical phenomena using quadratic functions.

Lesson 4-10: Follow the Bouncing Golf Ball (Exponential Curve Fitting)

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- Objective 1: Find an exponential curve of best fit for data.
- Objective 2: Study the decay rate for exponential decay.