Lesson 4.1: **Inverse Variation and the Reciprocal Function**

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| Objectives | * Use inverse variation to write and graph reciprocal functions. * Identify the effect of transformations on the graph of the parent reciprocal function and define the effects of h and k on the function f(x) =1/(x-h) + k.. | | |
| Language Objective | * Students will explain orally each step in solving a simple equation using sequencing words, sentence starters, and a word bank. | | |
| Essential Understanding | A reciprocal function is used to model inverse variation, which is a proportional relationship between two variables such that when one variable increases, the other decreases. | | |
| **A diagram of a rectangular object with red lines and numbers** | | **VOCABULARY**   * **asymptote** * **constant of variation** * **inverse variation** * **reciprocal function** |

1. **​Sketch as many other rectangles as you can that have the same area on a piece of graph paper. Organize and record your data for the lengths and widths of the rectangles.**
2. **Use Structure Considering rectangles with an area of 144 square units, what happens to the width of the rectangle as the length increases?**
3. **​Examine at least five other pairs of rectangles, each pair sharing the same area. How would you describe the relationship between the lengths and widths?**

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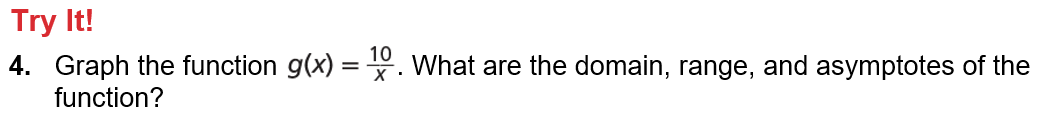
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**Practice & Problem Solving**

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