

## **Understand and Solve Problems about Inversely Proportional Relationships**

**A.PA.07.09** Recognize inversely proportional relationships in contextual situations; know that quantities are inversely proportional if their product is constant, e.g., the length and width of a rectangle with fixed area, and that an inversely proportional relationship is of the form  $y = k/x$  where  $k$  is some non-zero number.

**A.RP.07.10** Know that the graph of  $y = k/x$  is not a line, know its shape, and know that it crosses neither the  $x$  nor the  $y$ -axis.

### **Unwrapping the GLCE's:**

#### **Concepts (what students need to know):**

- Quantities are inversely proportional if their product is constant
- Equation  $y=k/x$  represents an inversely proportional relationship
- Understand and recognize shape of inversely proportional relationship

#### **Skills (what students need to be able to do):**

- Solve inversely proportional relationships
- Graph solutions to inversely proportional equations on coordinate graph
- Apply inversely proportional relationships to contextual situations

#### **Prior Knowledge:**

- Understand directly proportional relationships, how to graph, recognize and apply to contextual situations

### **Big Ideas:**

- Inversely proportional relationships create a unique shape when graphed, crossing neither the  $x$  or  $y$ -axis
- Quantities are inversely proportional if their product is constant

### **Essential Questions:**

1. What constitutes an inversely proportional relationship?
2. What does the graph of an inversely proportional relationship look like?