## Unit 6 Lesson 22: Scaling Two Dimensions

### 1 Tripling Statements (Warm up)

#### Student Task Statement

, , , , and all represent positive integers. Consider these two equations:

1. Which of these statements are true? Select **all** that apply.
   1. If is tripled, is tripled.
   2. If , , and are all tripled, then is tripled.
   3. If is tripled, is tripled.
   4. If , , and are all tripled, then is tripled.
2. Create a true statement of your own about one of the equations.

### 2 A Square Base (Optional)

#### Student Task Statement

Clare sketches a rectangular prism with a height of 11 and a square base and labels the edges of the base . She asks Han what he thinks will happen to the volume of the rectangular prism if she triples .

Han says the volume will be 9 times bigger. Is he right? Explain or show your reasoning.

### 3 Playing with Cones (Optional)

#### Student Task Statement

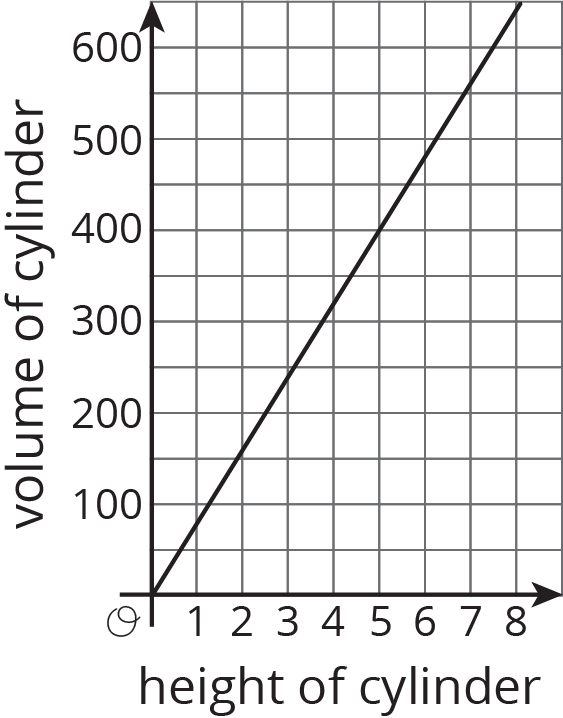
There are many cones with a height of 7 units. Let represent the radius and represent the volume of these cones.

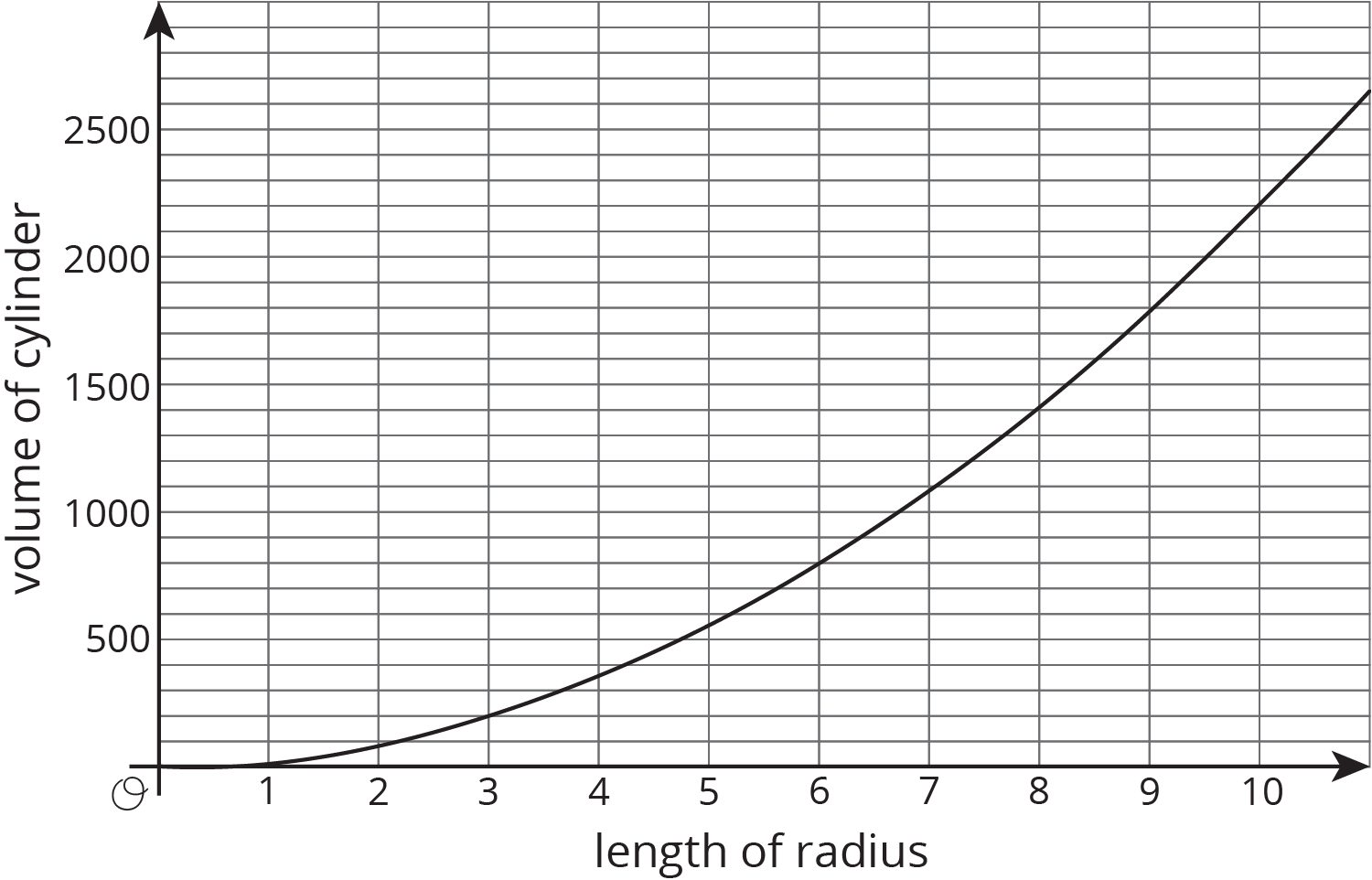
1. Write an equation that expresses the relationship between  and . Use 3.14 as an approximation for .
2. Predict what happens to the volume if you triple the value of .
3. Graph this equation.

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1. What happens to the volume if you triple ? Where do you see this in the graph? How can you see it algebraically?

#### Images for Activity Synthesis







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