

Unit 6 Lesson 22: Scaling Two Dimensions

1 Tripling Statements (Warm up)

Student Task Statement

m , n , a , b , and c all represent positive integers. Consider these two equations: $m = a + b + c$ $n = abc$

1. Which of these statements are true? Select **all** that apply.
 - a. If a is tripled, m is tripled.
 - b. If a , b , and c are all tripled, then m is tripled.
 - c. If a is tripled, n is tripled.
 - d. If a , b , and c are all tripled, then n 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 s . She asks Han what he thinks will happen to the volume of the rectangular prism if she triples s .

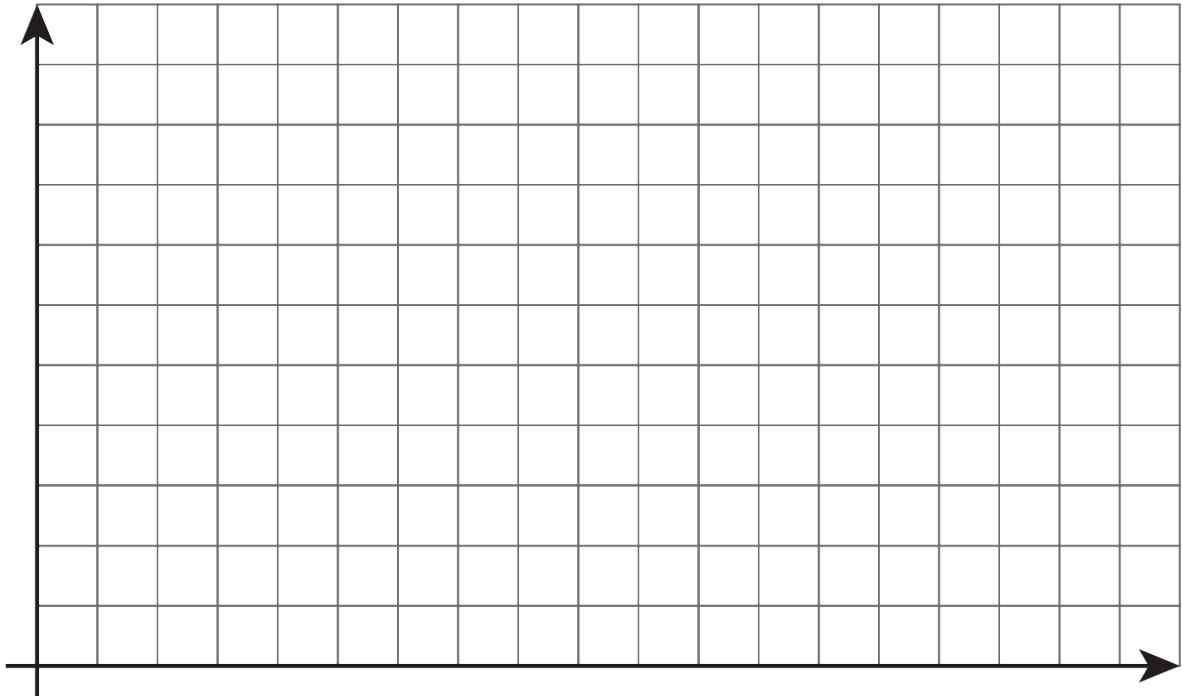
Han says the volume will be 9 times bigger. Is he right? Explain or show your reasoning.

3 Playing with Cones (Optional)

Student Task Statement

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

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



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

Images for Activity Synthesis

