

2.19.20 (Due 2.24.20)

NAME

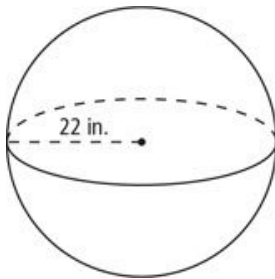
DATE

PERIOD

PRACTICE for Unit 5: End-of-Unit Assessment

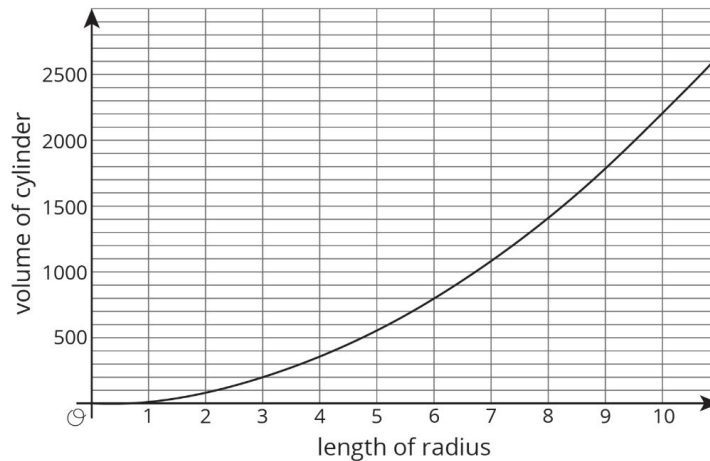
1. A cone has a volume of 18cm^3 . What is the volume of a cylinder with the same radius and height?

2. A sphere has a radius of 22 inches.



What is its volume, to the nearest cubic inches

3. The graph shows the relationship between the radius and volume for many cylinders.



Determine whether the relationship between radius and volume is linear or not linear and explain.

4. A cylinder has a height of 11 centimeters. Its volume is 99π cubic centimeters. Find its radius and diameter.

The radius of the cylinder is _____ centimeters.

The diameter of the cylinder is _____ centimeters.

5. There are many cones with a height of 12 inches. Let r represent the radius in inches and V represent the volume in cubic inches.

Fill in the table relating the radius and volume of cones with height 12 inches. Write each volume as a multiple of π .

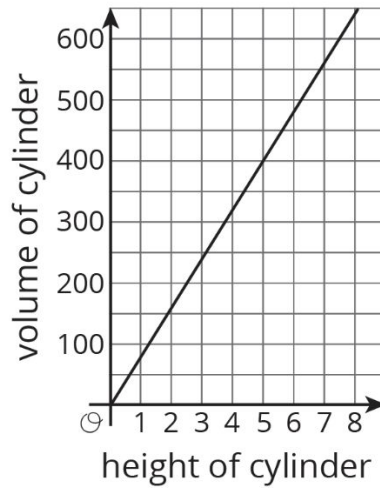
r	V
1	4π
2	
3	36π

Is there a linear relationship between the radius and the volume of these cylinders? Explain.

6. If a cylinder with height 8 inches and radius r is filled with water, it can fill a certain pitcher. How many of these pitchers can a cylinder with height 8 inches and radius $3r$ fill?

_____ pitchers

7. Use the graph below to answer the following questions.



- Describe what this graph represents.
- Is there a linear relationship? Explain how you know.

8. Cylinders A and B both have volume 100π cubic units, but have different dimensions. Cylinder A has radius 5 units and height 4 units. Find one possible radius and height for Cylinder B. Explain how you know Cylinder B has the same volume as Cylinder A.

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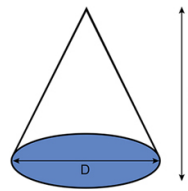
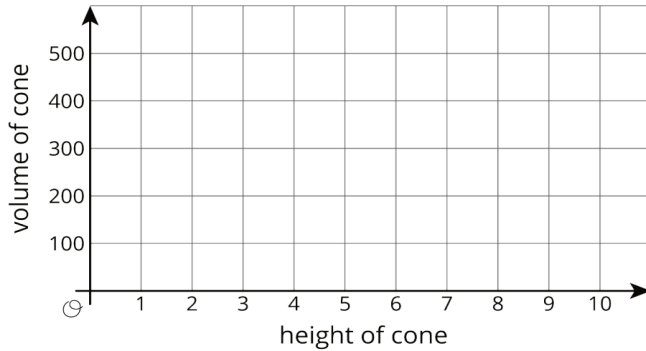
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Unit 5: End-of-Unit Written Response Assessment

You may use any type of calculator.

1. For cones with radius 9 units, the equation $V = 27\pi h$ relates the height h of the cone, in units, and the volume V of the cone, in cubic units.

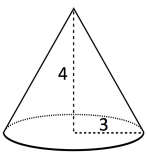


$$\text{Volume of Cone} = \frac{1}{3} \times \pi r^2 \times h$$

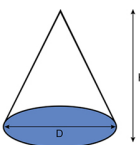
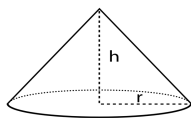
- Sketch the graph of this equation on the axes.
- Is there a linear relationship between height and volume? Explain how you know.

2. Cones A and B both have volume 24π cubic units, but have different dimensions. Cone A has radius 3 units and height 4 units. Find one possible radius and height for Cone B. Explain how you know Cone B has the same volume as Cone A.

Cone A



Cone B



$$\text{Volume of Cone} = \frac{1}{3} \times \pi r^2 \times h$$