math Antics Worksheets

Name: _____

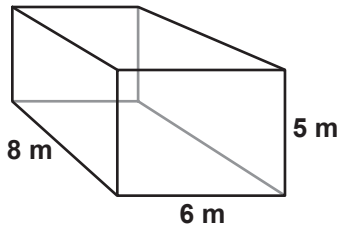
Date: _____

Finding the Volume of Rectangular Prisms

G-VOL 1

Instructions: Find the volume of each rectangular prism by multiplying the area of the 'base' times the length the base has been extended. (Don't forget about the units!)

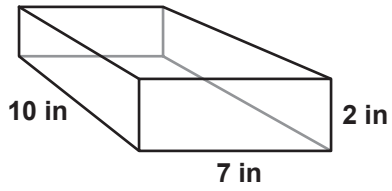
1



Area of Base = $5 \times 6 = 30\ m^2$

Volume = $30\ m^2 \times 8\ m = 240\ m^3$

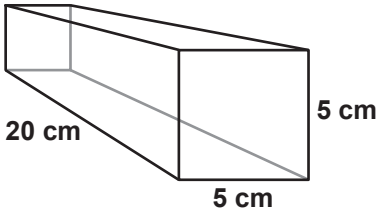
2



Area of Base = $2 \times 7 = 14\ in^2$

Volume = $14\ in^2 \times 10\ in = 140\ in^3$

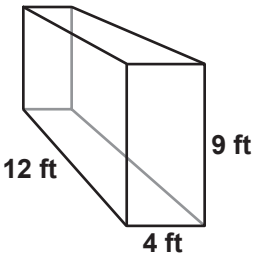
3



Area of Base = $5 \times 5 = 25\ cm^2$

Volume = $25\ cm^2 \times 20\ cm = 500\ cm^3$

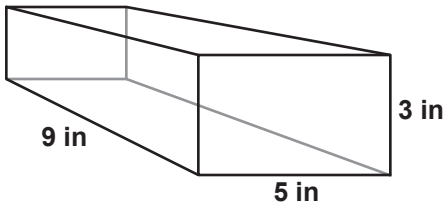
4



Area of Base = $9 \times 4 = 36\ ft^2$

Volume = $36\ ft^2 \times 12\ ft = 432\ ft^3$

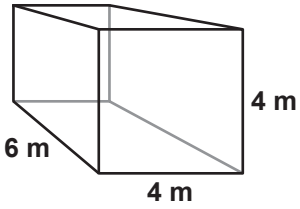
5



Area of Base = $3 \times 5 = 15\ in^2$

Volume = $15\ in^2 \times 9\ in = 135\ in^3$

6



Area of Base = $4 \times 4 = 16\ m^2$

Volume = $16\ m^2 \times 6\ m = 96\ m^3$

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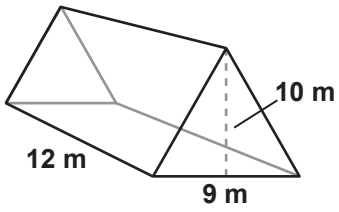
Finding the Volume of Triangular Prisms

G-VOL 2

Instructions: Find the volume of each triangular prism by multiplying the area of the 'base' times the length the base has been extended. (Don't forget about the units!)

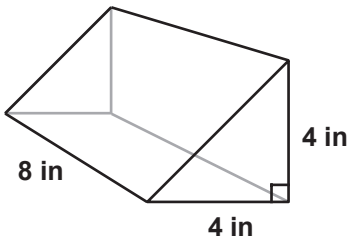
1



$\text{Area}_{\text{of Base}} = \frac{1}{2}(9 \times 10) = \frac{90}{2} = 45\ m^2$

Volume = $45\ m^2 \times 12\ m = 540\ m^3$

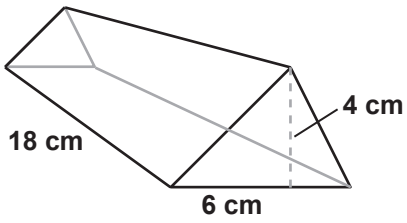
2



$\text{Area}_{\text{of Base}} = \frac{1}{2}(4 \times 4) = \frac{16}{2} = 8\ in^2$

Volume = $8\ in^2 \times 8\ in = 64\ in^3$

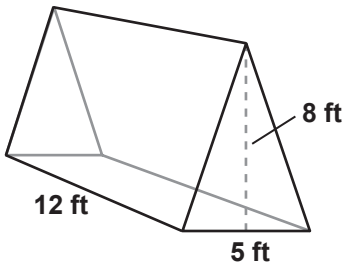
3



$\text{Area}_{\text{of Base}} = \frac{1}{2}(6 \times 4) = \frac{24}{2} = 12\ cm^2$

Volume = $12\ cm^2 \times 18\ cm = 216\ cm^3$

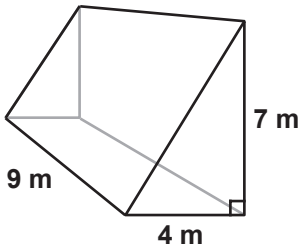
4



$\text{Area}_{\text{of Base}} = \frac{1}{2}(5 \times 8) = \frac{40}{2} = 20\ ft^2$

Volume = $20\ ft^2 \times 12\ ft = 240\ ft^3$

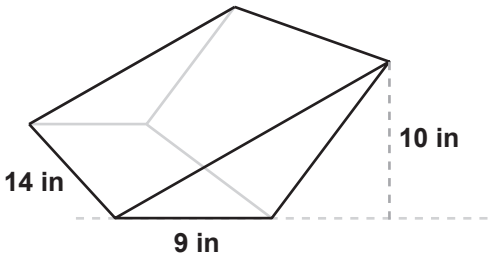
5



$\text{Area}_{\text{of Base}} = \frac{1}{2}(4 \times 7) = \frac{28}{2} = 14\ m^2$

Volume = $14\ m^2 \times 9\ m = 126\ m^3$

6



$\text{Area}_{\text{of Base}} = \frac{1}{2}(9 \times 10) = \frac{90}{2} = 45\ in^2$

Volume = $45\ in^2 \times 14\ in = 630\ in^3$

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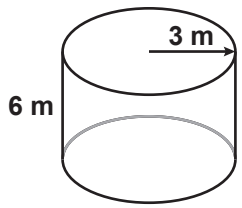
Finding the Volume of Cylinders

G-VOL 3

Instructions: Find the volume of each cylinder by multiplying the area of the 'base' times the length the base has been extended. (Use 3.14 for Pi and don't forget about the units!)

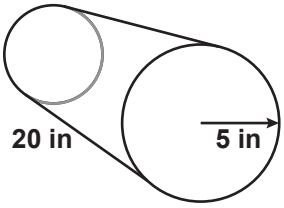
1



Area of Base $= \pi \times (3\text{ m})^2 = 3.14 \times 9\text{ m}^2 = 28.26\text{ m}^2$

$V = 28.26\text{ m}^2 \times 6\text{ m} = 169.56\text{ m}^3$

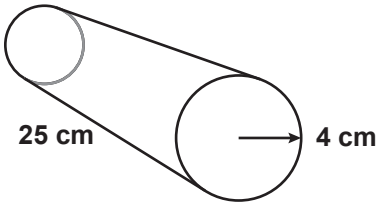
2



Area of Base $= \pi \times (5\text{ in})^2 = 3.14 \times 25\text{ in}^2 = 78.5\text{ in}^2$

$V = 78.5\text{ in}^2 \times 20\text{ in} = 1{,}570\text{ in}^3$

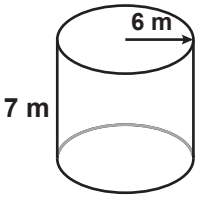
3



Area of Base $= \pi \times (4\text{ cm})^2 = 3.14 \times 16\text{ cm}^2 = 50.24\text{ cm}^2$

$V = 50.24\text{ cm}^2 \times 25\text{ cm} = 1{,}256\text{ cm}^3$

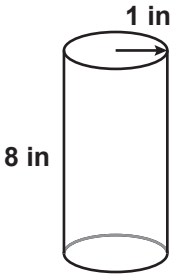
4



Area of Base $= \pi \times (6\text{ m})^2 = 3.14 \times 36\text{ m}^2 = 113.04\text{ m}^2$

$V = 113.04\text{ m}^2 \times 7\text{ m} = 791.28\text{ m}^3$

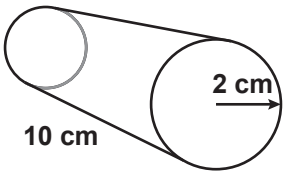
5



Area of Base $= \pi \times (1\text{ in})^2 = 3.14 \times 1\text{ in}^2 = 3.14\text{ in}^2$

$V = 3.14\text{ in}^2 \times 8\text{ in} = 25.12\text{ in}^3$

6



Area of Base $= \pi \times (2\text{ cm})^2 = 3.14 \times 4\text{ cm}^2 = 12.56\text{ cm}^2$

$V = 12.56\text{ cm}^2 \times 10\text{ cm} = 125.6\text{ cm}^3$

math Antics Worksheets

Name:

Date:

Finding the Volume of Spheres and Cones - Set 1

G-VOL 4

Instructions: Find the volume of each sphere or cone using the formulas given. (Use 3.14 for Pi, round answers to two decimal places, and don't forget about the units!)

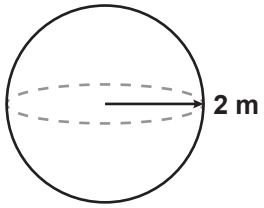
Formula for a Sphere

$$\text{Volume} = \frac{4}{3} \times \pi \times r^3$$

Formula for a Cone

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

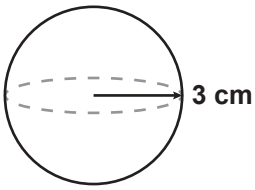
1



$V = \frac{4}{3} \times 3.14 \times (2 \times 2 \times 2)\ m^3$

$= \frac{4 \times 25.12\ m^3}{3} = 33.49\ m^3$

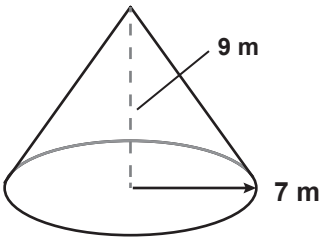
2



$V = \frac{4}{3} \times 3.14 \times (3 \times 3 \times 3)\ cm^3$

$= \frac{4 \times 84.78\ cm^3}{3} = 113.04\ cm^3$

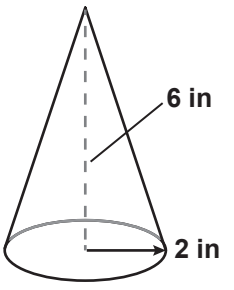
3



$V = \frac{1}{3} \times 9\ m \times 3.14 \times (7 \times 7)\ m^2$

$= 3\ m \times 153.86\ m^2 = 461.58\ m^3$

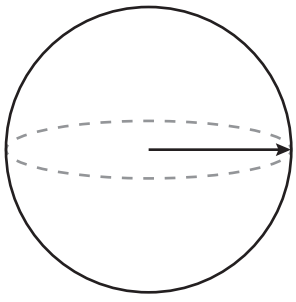
4



$V = \frac{1}{3} \times 6\ in \times 3.14 \times (2 \times 2)\ in^2$

$= 2\ in \times 12.56\ in^2 = 25.12\ in^3$

5



$V = \frac{4}{3} \times 3.14 \times (4 \times 4 \times 4)\ km^3$

$= \frac{4 \times 200.96\ km^3}{3} = 267.95\ km^3$

math Antics Worksheets

Name:

Date:

Finding the Volume of Spheres and Cones - Set 2

G-VOL 5

Instructions: Find the volume of each sphere or cone using the formulas given. (Use 3.14 for Pi, round answers to two decimal places, and don't forget about the units!)

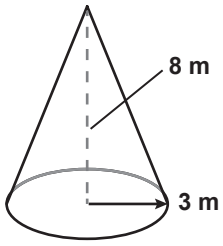
Formula for a Sphere

$$\text{Volume} = \frac{4}{3} \times \pi \times r^3$$

Formula for a Cone

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

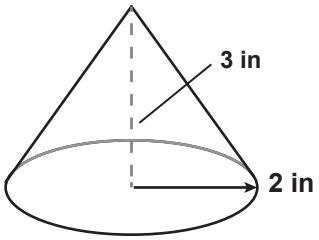
1



$V = \frac{1}{3} \times 8\text{ m} \times 3.14 \times (3 \times 3)\text{ m}^2$

$= 2.67\text{ m} \times 28.26\text{ m}^2 =$ 75.45 m³

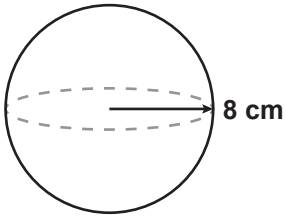
2



$V = \frac{1}{3} \times 3\text{ in} \times 3.14 \times (2 \times 2)\text{ in}^2$

$= 1\text{ in} \times 12.56\text{ in}^2 =$ 12.56 in³

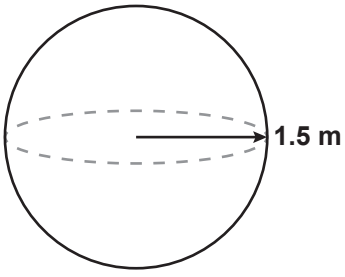
3



$V = \frac{4}{3} \times 3.14 \times (8 \times 8 \times 8)\text{ cm}^3$

$= \frac{4 \times 1607.68\text{ cm}^3}{3} =$ 2,143.57 cm³

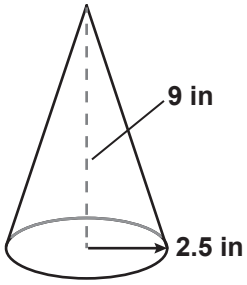
4



$V = \frac{4}{3} \times 3.14 \times (1.5 \times 1.5 \times 1.5)\text{ m}^3$

$= \frac{4 \times 10.598\text{ m}^3}{3} =$ 14.13 m³

5



$V = \frac{1}{3} \times 9\text{ in} \times 3.14 \times (2.5 \times 2.5)\text{ in}^2$

$= 3\text{ in} \times 19.625\text{ in}^2 =$ 58.88 in³