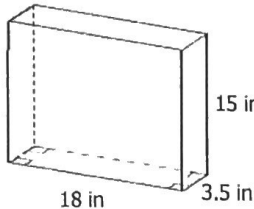
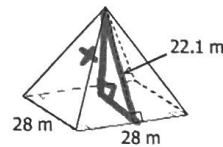
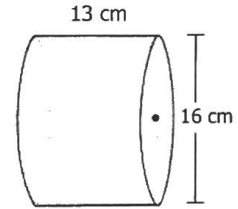
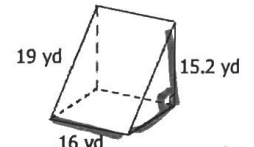


In Class Quiz II Review 8.7

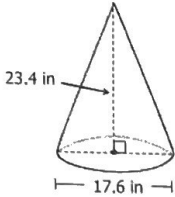
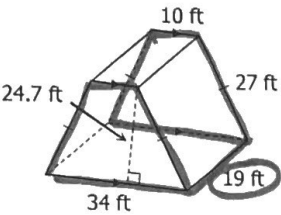
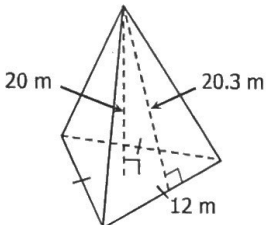
Name: _____ Date: _____ Block: _____

VOLUME & SURFACE AREA REVIEW

Part I: Find the volume and surface area of each figure below.
Round to the nearest hundredth when necessary.

Figure	Volume	Surface Area
	<p>1</p> $V = l \cdot w \cdot h$ $V = 18(3.5)(15)$ $V = 945 \text{ in}^3$	<p>2</p>
 <p>28 m 28 m 22.1 m</p>	<p>3</p> $V = \frac{1}{3} Bh \quad h = 17.1$ <p>4</p> $B = \text{square}$ $B = bh$ $B = 28(28) = 784$ $V = \frac{1}{3}(784)(17.1)$	$V = 4468.8 \text{ m}^3$
 <p>13 cm 16 cm</p>	<p>5</p> $V = \pi r^2 (h)$ $V = \pi (8^2)(13)$ $V = 832\pi \text{ cm}^3$ $\approx 2613.81 \text{ m}^3$	<p>6</p>
 <p>19 yd 15.2 yd 16 yd</p>	<p>7</p> $V = Bh$ <p>8</p> $B = \text{triangle}$ $B = \frac{1}{2}bh$ $B = \frac{1}{2}(11.4)(15.2)$ $B = 86.64$ $h = 16$	$V = (86.64)(16)$ $V = 1386.24 \text{ yd}^3$

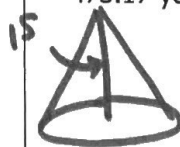
$x^2 + 15.2^2 = 19^2$
 $x^2 = 129.96$
 $x = 11.4$

Figure	Volume	Surface Area
	<p>9</p> $V = \frac{1}{3} \pi r^2 (h)$ $V = \frac{1}{3} \pi (8.8^2) (23.4)$ <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $V = 604.03 \pi \text{ in}^3$ $\approx 1897.62 \text{ in}^3$ </div>	<p>10</p>
	<p>11</p> $V = Bh$ <p>B = trapezoid</p> $B = \frac{1}{2} (h) (b_1 + b_2)$ $B = \frac{1}{2} (24.7) (34 + 10)$ $B = 543.4 \quad h = 19$	<p>12</p> $V = (543.4) (19)$ <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $V = 10324.6 \text{ ft}^3$ </div>
 <p>12</p> $x^2 + 6^2 = 12^2$ $x = 10.39$	<p>13</p> $V = \frac{1}{3} Bh$ <p>B = triangle</p> $B = \frac{1}{2} (b) (h)$ $B = \frac{1}{2} (12) (10.39)$ $B = 62.34 \quad h = 20$	<p>14</p> $V = \frac{1}{3} (62.34) (20)$ <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $V = 415.6 \text{ m}^3$ </div>

Part 2: Read each question carefully and solve.
Round to the nearest hundredth when necessary.

15 ~~If a rectangular prism with a length of 12 feet and a width of 9 feet has a surface area of 930 square feet, find its height.~~

16 A cone with a height of 15 yards has a volume of 475.17 yd³. Find the diameter of the cone.



$$V = 475.17 \text{ yd}^3$$

$$d = 11$$

$$V = \frac{1}{3} \pi r^2 (h)$$

$$475.17 = \frac{1}{3} \pi r^2 (15)$$

$$\frac{475.17}{5\pi} = \frac{5\pi r^2}{5\pi}$$

$$30.25 = r^2$$

$$r = 5.5$$

Volume Examples

5. If the dimensions of a figure are multiplied by 4, how many times larger will the volume be?

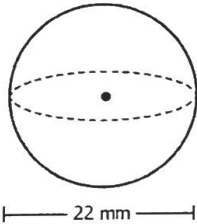
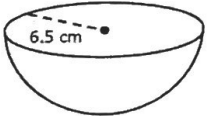
$$(4)^3 = 64$$

64 times larger.

6. The volume of a figure is 110.5 ft^3 . If the dimensions are doubled, what will be the volume of the new figure?

$$(2)^3 = 8$$

$$110.5 \times 8 = \boxed{884 \text{ ft}^3}$$

 <p>A diagram of a sphere with a horizontal diameter line passing through the center. The diameter is labeled "22 mm".</p>	<p>26.</p> $V = \frac{4}{3} \pi r^3$ $V = \frac{4}{3} \pi (11^3)$ $V = \boxed{5575.28 \text{ mm}^3}$	<p>27.</p>
 <p>A diagram of a hemisphere with a radius line from the center of the flat base to the top edge. The radius is labeled "6.5 cm".</p>	<p>28.</p> $V = \frac{\frac{4}{3} \pi r^3}{2}$ $V = \frac{\frac{4}{3} \pi (6.5^3)}{2} =$ $\boxed{575.17 \text{ cm}^3}$	<p>29.</p>