Name _____ Geometry Final Exam Study Guide Unit 7

<table>
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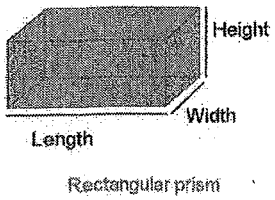
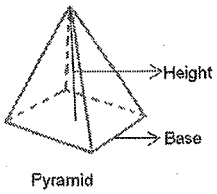
<td> 

Rectangular prism</td>
<td>Rectangular Prism:
V = Bh
(B = Base area)
OR V = lwh</td>
<td rowspan="2"> 

Pyramid</td>
<td rowspan="2">Square or Rectangular Pyramid:
$V = \frac{1}{3}Bh$
(B = Base area)</td>
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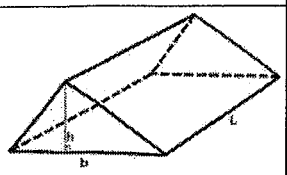
<td>  </td>
<td>Triangular Prism:
V = Bh
B = Base area, h = prism height
Base Area = $\frac{1}{2}bh$</td>
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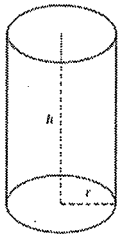
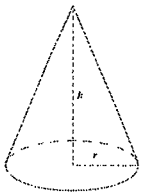
<tr>
<td>  </td>
<td>Cylinder:
$V = \pi r^2 h$</td>
<td>  </td>
<td>Cone:
$V = \frac{1}{3}\pi r^2 h$</td>
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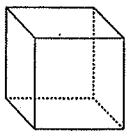
<td>  </td>
<td>Cube:
$V = s^3$</td>
<td>  </td>
<td>Sphere:
$V = \frac{4}{3}\pi r^3$</td>
</tr>
</table>

1. Name the 3-D objects that create a kitchen table

RECTANGULAR PRISM

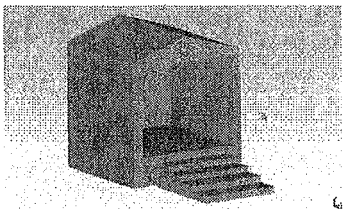
2. Name the 3-D objects that create an ice cream cone with a scoop of ice cream.

CONE + ½ SPHERE

3. name the 3-D objects in the picture:

TRIANGULAR PRISM

RECTANGULAR PRISM



4. How are the volumes of a cone and a cylinder related?

If BASE area and heights are equal the the volume of a cylinder is 3 times that of Cone

5. How are the volumes of a prism and a pyramid related?

If BASE area & heights are equal, then the volume of the pyramid is 1/3 that of the prism.

6. Find the volume of a sphere with a diameter of 14 inches. Round your answer to the nearest tenth: 1436.8 in^3

$\frac{4}{3}\pi r^3 = \frac{4}{3} \cdot 343\pi = 457\frac{1}{3}\pi = 1436.7550$

7. Joey was fighting with his little brother Peter. As a punishment, Joey's mother is making him fill Peter's rectangular kiddie pool (dimensions 40 inches by 30 inches by 15 inches) with a cylindrical cup that is 6 inches high with a radius of 2 inches. How many cups of water will Joey need to fill the pool?

Pool volume $V = 40(30)(15) = 18{,}000$ cup volume 75.39822369

$\pi r^2 h$
$\pi(2)^2(6)$
24π

Number of cups needed $\frac{18{,}000}{75.398}$ = 238.732 (239)

8. Find the volume of a cone that has a height of 16 inches and a diameter of 10 inches. Round your answer to the nearest tenth.

$V = \frac{1}{3}Bh$
$= \frac{1}{3}(25\pi)(16)$
$= 133\frac{1}{3}\pi = 418.879$

418.9 in^3

$B = \pi r^2$
$= 5^2\pi$
$= 25\pi$

9. A cylinder shaped can has a height of 10 inches and a diameter of 8 inches. What is the length of a side of a cube with the same volume?

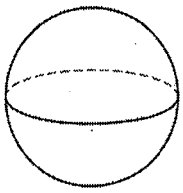
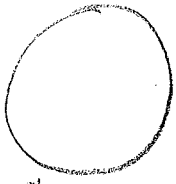
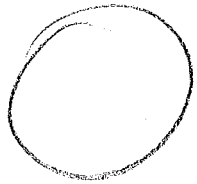
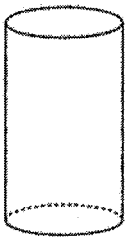
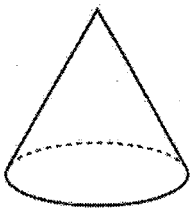
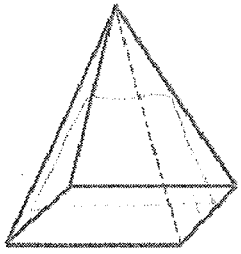
Cylinder: $V = Bh$
$= 16\pi(10)$
$= 160\pi$
$= 502.6548$

$B = \pi r^2$
$= \pi(4)^2$
$= 16\pi$

$V = s \cdot s \cdot s$
$V = s^3$
$502.65 = s^3$
$\sqrt[3]{502.6} = s$
7.951028

7.95 in

Describe the shape you see for each cross section cut:

Name the 3-D figure:	Cut vertically	Cut horizontally
	 CIRCLE	 CIRCLE
	 RECTANGLE	 CIRCLE
	 TRIANGLE PARABOLA	 CIRCLE
	 TRIANGLE	RECTANGLE


TRAPEZOID