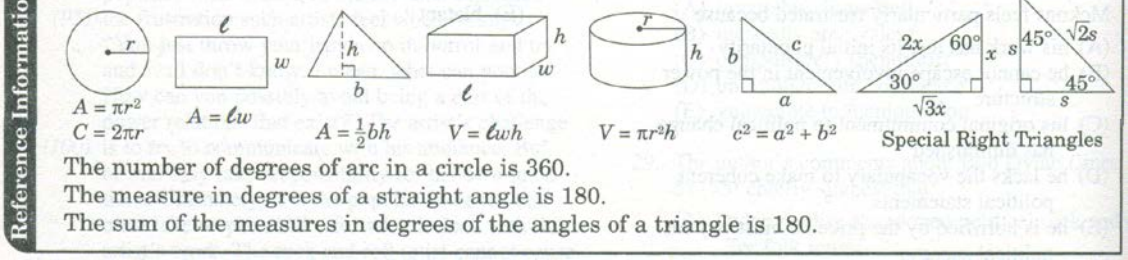
Name _____ Date _____ Period _____

DIRECTIONS: For #1-8, show all work!!! Leave answers in terms of π when necessary in #5-8.

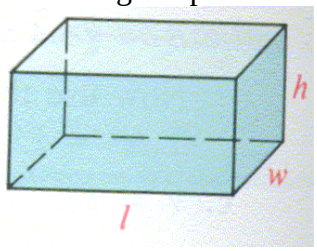
Reference Information



$A = \pi r^2$ $C = 2\pi r$ $A = \ell w$ $A = \frac{1}{2}bh$ $V = \ell wh$ $V = \pi r^2 h$ $c^2 = a^2 + b^2$ Special Right Triangles

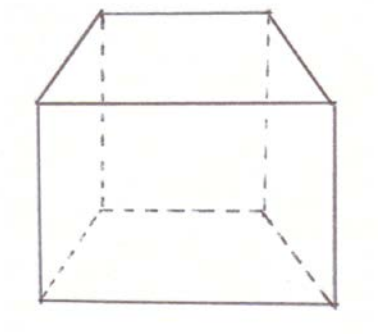
The number of degrees of arc in a circle is 360.
The measure in degrees of a straight angle is 180.
The sum of the measures in degrees of the angles of a triangle is 180.

1. Find the LATERAL AREA, TOTAL SURFACE AREA, and VOLUME of a right rectangular prism with length 9, width 2, and height 4.



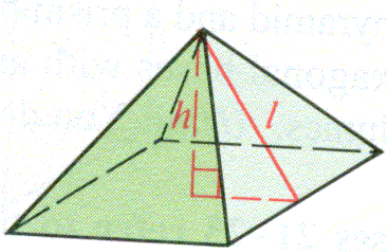
Lateral Area _____ Total Surface Area _____ Volume _____

2. Find the LATERAL AREA, TOTAL SURFACE AREA, and VOLUME of a right trapezoidal prism with base edges 10, 12, 10, 24, and height 15.



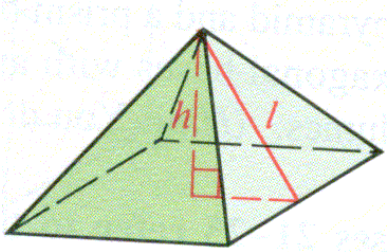
Lateral Area _____ Total Surface Area _____ Volume _____

3. Find the LATERAL AREA, TOTAL SURFACE AREA, and VOLUME of a square pyramid with base edge 12 and lateral edge 10.



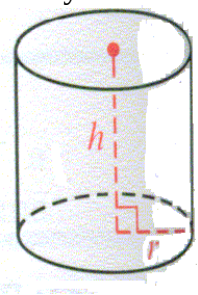
Lateral Area _____ Total Surface Area _____ Volume _____

4. Find the LATERAL AREA, TOTAL SURFACE AREA, and VOLUME of a square pyramid with height 16 and slant height 20.



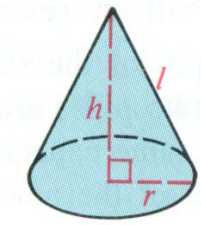
Lateral Area _____ Total Surface Area _____ Volume _____

5. Find the LATERAL AREA, TOTAL SURFACE AREA, and VOLUME of a right cylinder with radius 3 and height 11.



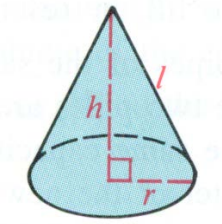
Lateral Area _____ Total Surface Area _____ Volume _____

6. Find the LATERAL AREA, TOTAL SURFACE AREA, and VOLUME of a right cone with radius $5\sqrt{3}$ and slant height 10.



Lateral Area _____ Total Surface Area _____ Volume _____

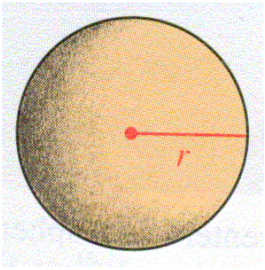
7. Find the LATERAL AREA and TOTAL SURFACE AREA of a right cone with volume 392π and radius 7.



Lateral Area _____

Total Surface Area _____

8. Complete the following chart for SPHERES.



	A	B	C
Radius	3		
Surface Area		100π	
Volume			$\frac{4000\pi}{3}$

A spherical scoop of ice cream with diameter 8 cm is placed in/on a cone with diameter 6 cm and height 20 cm. Is the cone big enough to handle all the ice cream if it melts?

9. In the lines below, explain your plan to determine/prove the correct answer.

_____

_____

_____

_____

_____

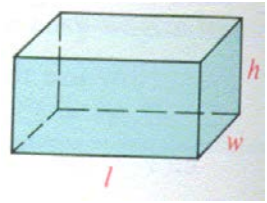
_____

_____

10. Show the work that follows your plan and determines/proves the correct answer.

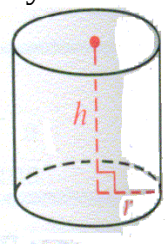
11. Circle exactly one correct answer: **YES** **NO**

Prisms



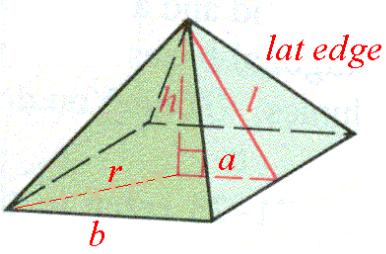
Lateral Area	ph
Surface Area	L.A. + $2B$
Volume	Bh

Cylinders



Lateral Area	$2\pi r \cdot h$
Surface Area	L.A. + $2(\pi r^2)$
Volume	$\pi r^2 \cdot h$

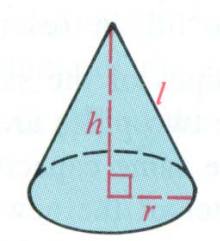
Pyramids



Lateral Area	$\frac{1}{2}pl$
Surface Area	L.A. + B
Volume	$\frac{1}{3}Bh$

$h^2 + a^2 = l^2$
$l^2 + (\frac{1}{2}b)^2 = (\text{lateral edge})^2$
$h^2 + r^2 = (\text{lateral edge})^2$

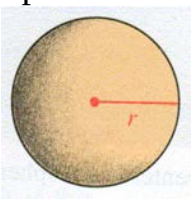
Cones



Lateral Area	$\frac{1}{2}(2\pi r) \cdot l$ or $\pi r \cdot l$
Surface Area	L.A. + (πr^2)
Volume	$\frac{1}{3}(\pi r^2)h$

$h^2 + r^2 = l^2$

Spheres



Surface Area	$4\pi r^2$
Volume	$\frac{4}{3}(\pi r^3)$