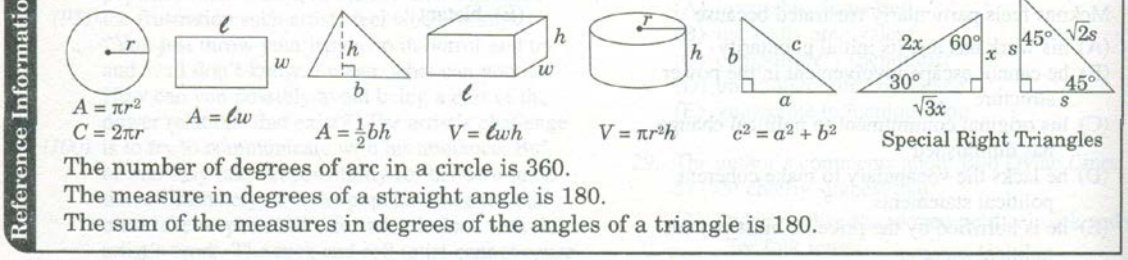
Name _____ Date _____ Period _____

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

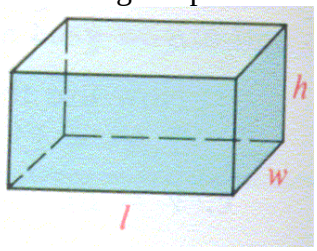
Reference Information



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

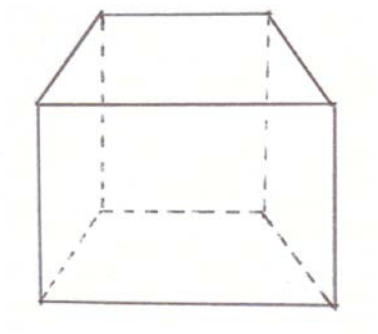
The number of degrees of arc in a circle is 360.
The measure in degrees of a straight angle is 180.
The sum of the measures in degrees of the angles of a triangle is 180.

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



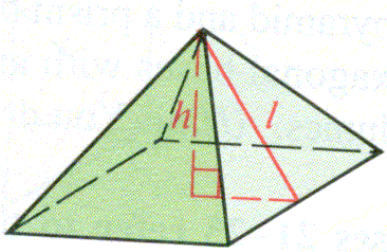
Lateral Area **88** Total Surface Area **124** Volume **72**

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.



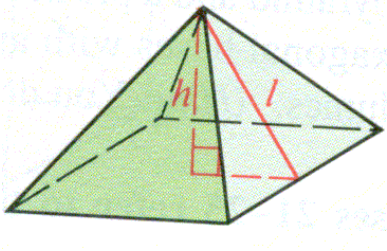
Lateral Area **840** Total Surface Area **1128** Volume **2160**

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



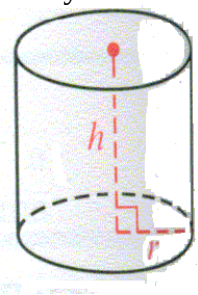
Lateral Area **192** Total Surface Area **336** Volume **$96\sqrt{7}$**

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



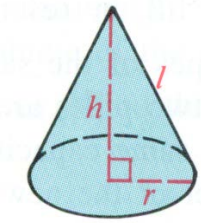
Lateral Area **960** Total Surface Area **1536** Volume **3072**

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



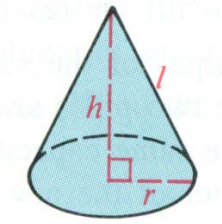
Lateral Area **66π** Total Surface Area **84π** Volume **99π**

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 **$50\sqrt{3}\pi$** Total Surface Area **$50\sqrt{3}\pi + 75\pi$** Volume **125π**

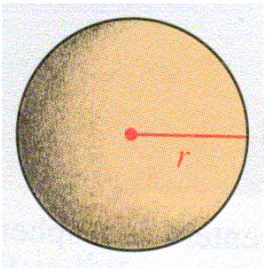
7. Find the LATERAL AREA and TOTAL SURFACE AREA of a right cone with volume 392π and radius 7.



Lateral Area **175π**

Total Surface Area **224π**

8. Complete the following chart for SPHERES.



	A	B	C
Radius	3	**5**	**10**
Surface Area	**36π**	100π	**400π**
Volume	**36π**	**$\frac{500\pi}{3}$**	$\frac{4000\pi}{3}$

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.

Volume of ice cream: $85.\overline{3}\pi$ cm^2 (≈ 268.08 cm^2)

Volume of come: 60π cm^2 (≈ 188.50 cm^2)

*****Remember to use radius (and not diameter) in volume formulas**

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