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PERIMETERS IN REAL LIFE

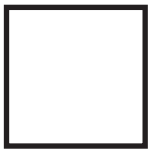
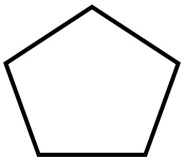
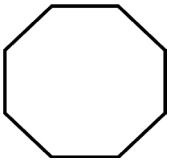
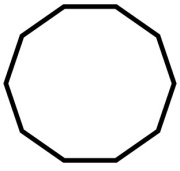
Ann has a trampoline. Sometimes she bumps her head on the bar that goes around the edge of the trampoline. She is going to put a rubber safety tube around the edge.

Ann's trampoline is in the shape of a heptagon. It has seven sides. Ann measures one side. It is six feet in length.

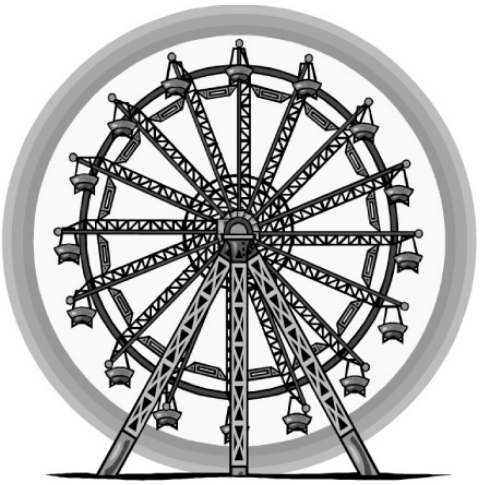
What is the perimeter? _____ feet
How many feet of rubber tubing does Ann need? _____

The Game: Fill in the chart. Use the words below. *s* = 5

triangle octagon decagon pentagon square

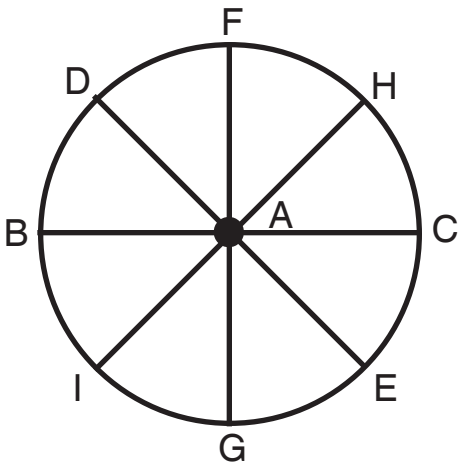
SHAPE	NAME OF THE SHAPE	NUMBER OF SIDES	PERIMETER *s + s + s + s*
	**TRIANGLE**	**3**	**5 + 5 + 5 = 15**
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

DIAMETERS



A chord is any line segment with both endpoints on the circle. A diameter is a chord that passes through the center of the circle. Every diameter of the same circle is the same length.

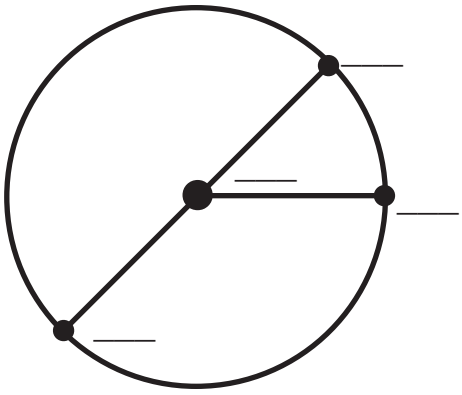
Look at ⊙A. $\overline{BC}$, $\overline{DE}$, $\overline{FG}$, and $\overline{HI}$ are diameters of ⊙A.



$\overline{BC}$ = 2"
$\overline{DE}$ = _____"
$\overline{FG}$ = _____"
$\overline{HI}$ = _____"

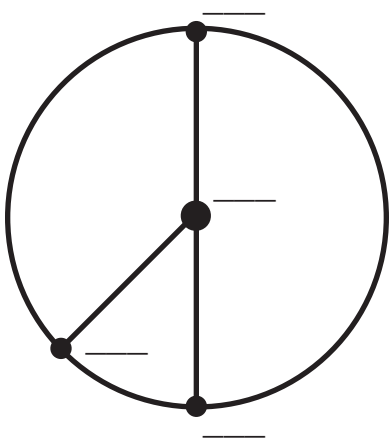
The Game: Follow the directions.

Label ⊙O. $\overline{NP}$ is a diameter. $\overline{QO}$ is a radius.



$\overline{NP}$ = 2"
$\overline{PN}$ = _____"
$\overline{QO}$ = _____"

Label ⊙G. $\overline{HI}$ is a diameter. $\overline{JG}$ is a radius.



$\overline{HI}$ = 4 cm
$\overline{IH}$ = _____ cm
$\overline{JG}$ = _____ cm

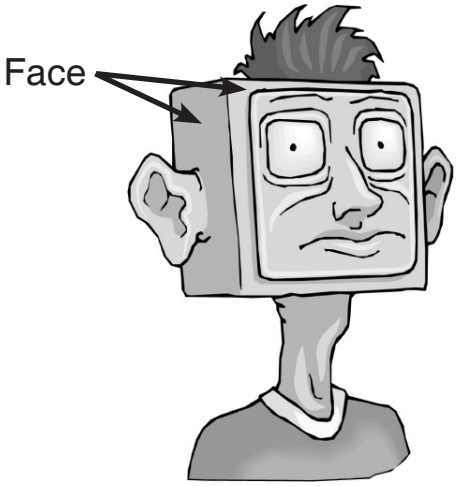
UNIT 5

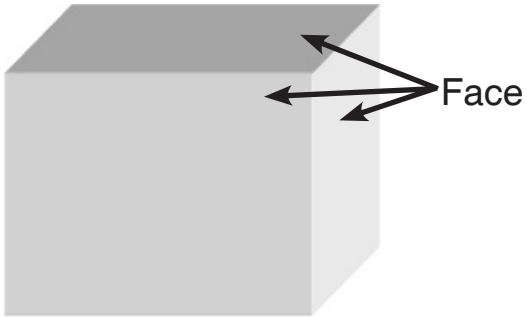
MANY FACES

Polyhedron is a fancy name for some space figures. Pyramids and cubes are polyhedrons. They have flat surfaces. A cube has flat surfaces, so it is a polyhedron. A sphere is round. It has a curved surface, so it is not a polyhedron.

The word "polyhedron" is a Greek word. "Poly" means "many," and "hedra" means "face."

The flat surfaces on polyhedrons are called faces. You can't see all of the faces at one time.





The Game: Write T for TRUE or F for FALSE.

1. A polyhedron is not a space figure. _____
2. "Poly" means "many." _____
3. A polyhedron has curved surfaces. _____
4. The flat surfaces of polyhedrons are faces. _____
5. A cube is a polyhedron. _____

CYLINDERS

A cylinder is a 3D shape that looks like a tube, a pipe, or a can of soup. A cylinder has two parallel bases that are congruent circles.

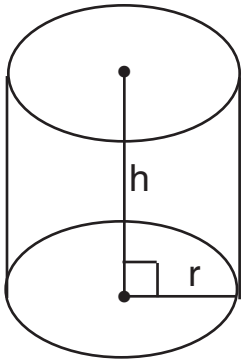
How much water will a can hold? To find the volume of a cylinder, follow these steps:

1. Square the radius.
2. Multiply by pi.
3. Multiply by the height.

The volume of a cylinder equals pi times the radius squared times the height.

$$V = \pi r^2 h$$

The radius is 5 cm. The height is 10 cm. Use a calculator and find the volume of the can.



The problem ➜ V = ?

The formula ➜ $V = \pi r^2 h$

Plug in what you know. ➜ $V = \pi 5^2 10$

Square the radius. ➜ 5 x 5 = 25

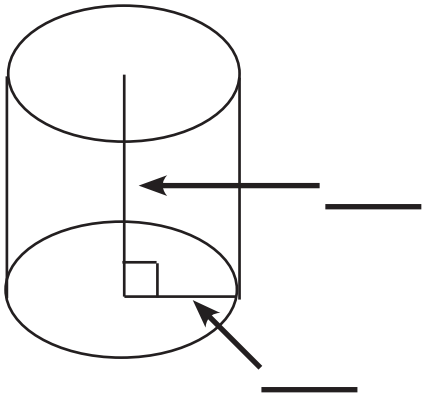
Multiply by pi. ➜ 25 x 3.14 = 78.5

Multiply by the height. ➜ 78.5 x 10 = 785

Plug in the answer. ➜ V = 785 cc

The volume of the cylinder is about _____ cubic centimeters.

The Game: Write the measurements. The radius is 2. The height is 4.



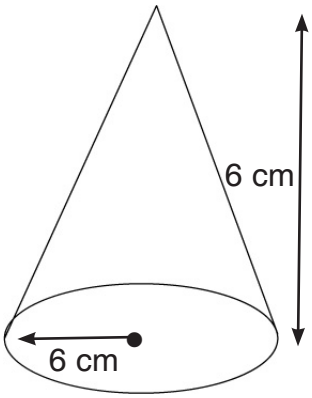
UNIT 6

CONES AND VOLUME

The spires on a castle are cone shaped. A spire is the top part of a tower that tapers or slims to a point.

$$V = 1/3\pi r^2 h$$

The radius is 6 cm. The height is 6 cm. What is the volume of the cone?



The problem ➜ V = ?

The formula ➜ $V = 1/3\pi r^2 h$

Plug in what you know. ➜ $V = 1/3\pi 6^2 \times 6$

Square the radius. ➜ 6 x 6 = _____

Multiply by pi. ➜ _____ x 3.14 = 113.04

Multiply by the height. ➜ 113.04 x 6 = 678.24

Multiply by 1/3. ➜ 1/3(678.24) = 678.24 ÷ 3 = 226.08

Plug in the answer. ➜ V = 226.08 cc

The volume is about _____ cubic centimeters.

The Game: Find the volume of the spire.

Look at the spire. The radius is 6 ft. The height is 5 ft. What is the volume?

The problem ➜ V = ?

The formula ➜ $V = 1/3\pi r^2 h$

Plug in what you know. ➜ $V = 1/3\pi 6^2 \times 5$

Square the radius. ➜ 6 x 6 = _____

Multiply by pi. ➜ _____ x 3.14 = _____

Multiply by the height. ➜ _____x 5 = _____

Multiply by 1/3. ➜ 1/3(_____) = _____

Plug in the answer. ➜ V = _____ cu ft

The volume is about _____ cubic feet.

UNIT 6