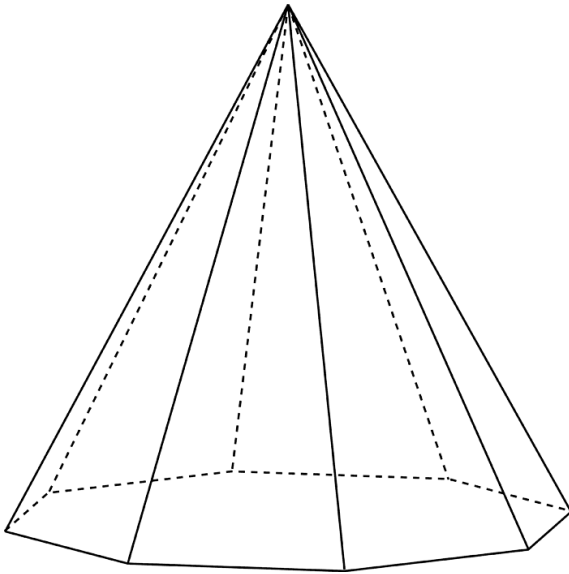


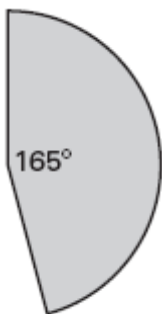
**Advanced Geometry**  
**More with Surface Area and Volume**

**Name:** \_\_\_\_\_

- 1.) **Right Octagonal Pyramid** - Side of Octagon = 18 cm; Height of Pyramid = 40 cm.  
Find the surface area and volume of the pyramid.



- 2.) The sector shown forms the sides of a cone whose lateral surface area is 26 square centimeters.
- (A) Find the slant height of the cone.
- (B) Find the radius of the base of the cone.



- 3.) Ralph decides to build the pool pictured below in his back yard. He hires a company to build the pool, and it is finished at 12:30 PM on Monday. As soon as construction is finished, Ralph has the company turn on three “industrial strength” hoses that pour water into the pool at 100 gallons per minute each!
- (A) Find the volume of Ralph's new pool (in cubic feet).
- (B) If there are 7.481 gallons of water per cubic foot of water, at what time can Ralph finally go swimming? That is, when is the pool full of water, to the nearest second?

