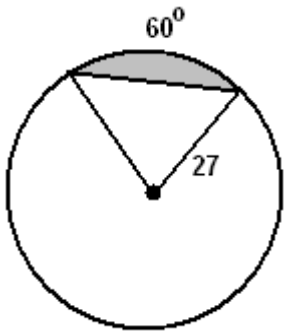


Advanced Geometry  
More with Circles

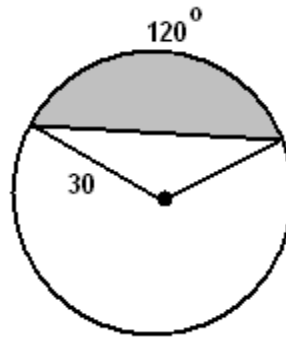
Name: \_\_\_\_\_

In Problems 1 - 4, find the area of the shaded region. **SHOW YOUR WORK.**

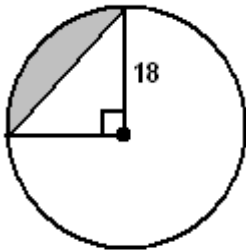
1.) EXACT



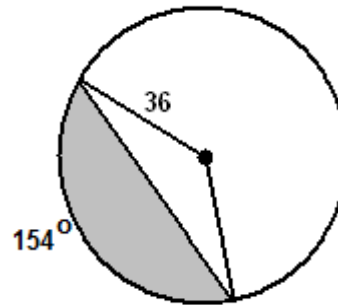
2.) EXACT



3.) EXACT

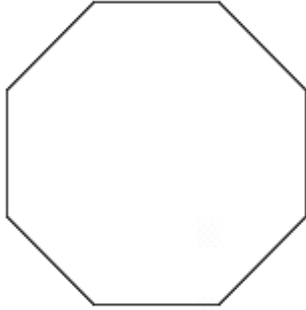


4.) Decimals!!



**In Problems 5 - 6, find the area on which the dog can roam.  
SHOW YOUR WORK! (Decimals are fine)**

- 5.) A dog is tied to the corner of a shed in the shape of a regular octagon with side length 75 feet. On how much area can the dog roam if its leash is 140 feet long? (The dog is outside the shed.)



- 6.) A dog is tied to the corner of a shed in the shape of a regular decagon (10 sides) of side length 50 feet. If the dog's leash is 140 feet long, on how much area can the dog roam? (The dog is outside the shed.)

- 7.) What is the first time after 6:44 PM that the hour and minute hands of a standard clock overlap?

- 8.) How long after 1:22 PM until the hour and minute hands of a standard clock overlap?