

Name: _____
 Geometry

Date: _____
 Band: _____

Unit 10: Area Study Guide

LT#1: Find the area of a regular polygon.

Find the area of each regular polygon. If your answer is not an integer, leave it in simplest radical form.

1.



2.



3. What is the area of a regular hexagon with a perimeter of 240 cm?

4. What is the area of a square with radius 7.5 m?

Sketch each regular polygon with the given radius. Then find its area to the nearest tenth.

5. triangle; radius 4 in.

6. Square; radius 8 mm

7. hexagon; radius 7 cm

LT#2: Find areas of regular polygons and triangles using trigonometry.

Find the area of each polygon. Round your answers to the nearest tenth.

8. regular decagon with radius 5 ft

9. Regular pentagon with apothem 8 cm

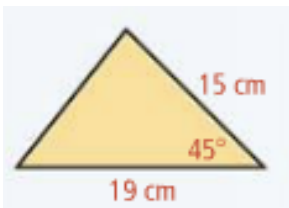
10. Regular hexagon with apothem 6 in.

11. regular quadrilateral with radius 2 m

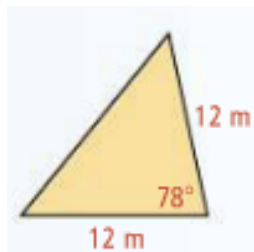
12. Regular octagon with apothem 10 ft

13. Regular heptagon with radius 3 ft

14.



15.

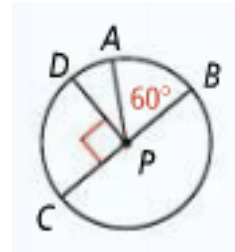


LT#3: Find the areas of circles, sectors, and segments of circles.

Find each measure.

16. $m\angle APD$

17. Measure of arc AC

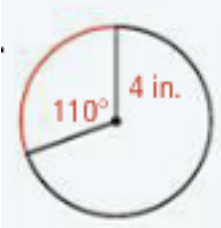


18. measure of arc ABD

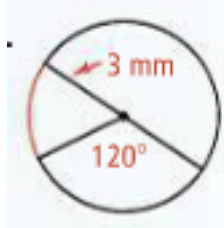
19. $m\angle CPA$

Find the length of each arc shown in red. Leave your answer in terms of π .

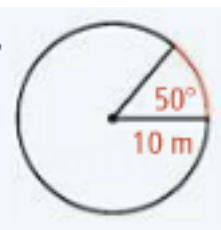
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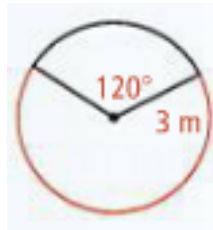
21.



22.



23.

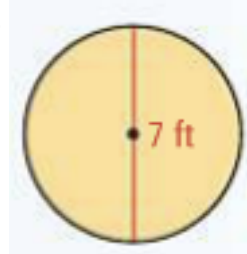


What is the area of each circle? Leave your answer in terms of π .

24.



25.

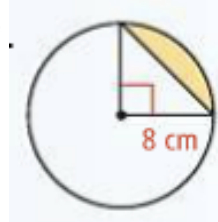


Find the area of each shaded region. Round your answer to the nearest tenth.

26.



27.



28. A circle has a radius of 20 cm. What is the area of the smaller segment of the circle formed by a 60° arc? Round to the nearest tenth.