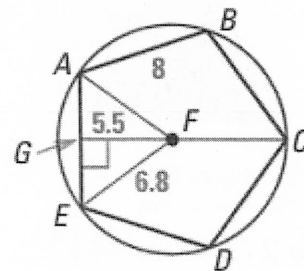


In Exercises 1-4, use the diagram shown.



1. Identify the *center* of regular polygon ABCDE.

Point F

2. Identify a *central angle* of the polygon.

What is the measure of the *central angle*? $m\angle AFE = 72^\circ$

3. Identify a *radius* of the polygon.

What is the length of the *radius*? $FE = 6.8$ units

4. Identify the *apothem*.

What is the length of the *apothem*? $FG = 5.5$ units

Find the measure of a central angle of a regular polygon with the given number of sides. Round to the nearest tenth of a degree if necessary.

5. 20 sides = 18°

6. 7 sides = 51.4°

7. 30 sides = 12°

Find the given angle measure for the regular dodecagon shown.

8. $m\angle TWU = 30^\circ$

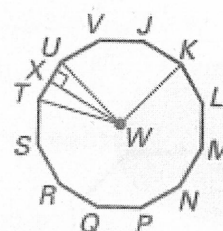
9. $m\angle TWX = 15^\circ$

10. $m\angle XUW = 75^\circ$

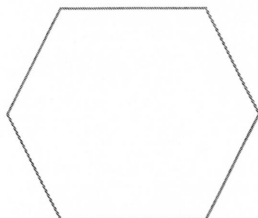
11. $m\angle TWK = 120^\circ$

12. $m\angle UWK = 90^\circ$

13. $m\angle XWK = 105^\circ$



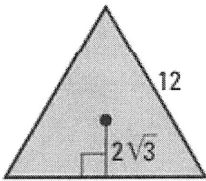
14. A regular hexagon has a diameter 22 inches. What is the length of its apothem to the nearest hundredth?



$a = 9.53$ in

Find the perimeter and area of the regular polygon. Round answers to the nearest hundredth, if necessary.

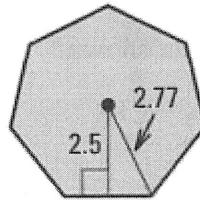
15.



$$P = 36 \text{ units}$$

$$A = 62.35 \text{ units}^2$$

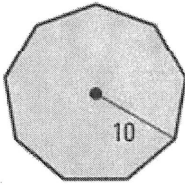
16.



$$P = 16.66 \text{ units}$$

$$A = 20.83 \text{ units}^2$$

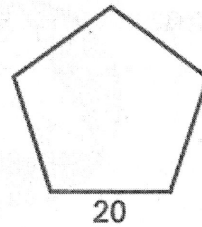
17.



$$P = 61.56 \text{ units}$$

$$A = 289.33 \text{ units}^2$$

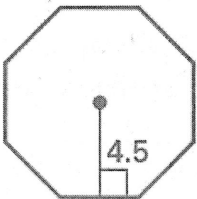
18.



$$P = 100 \text{ units}$$

$$A = 688 \text{ units}^2$$

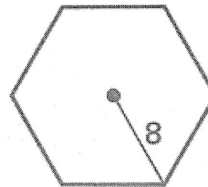
19.



$$P = 29.76 \text{ units}$$

$$A = 66.96 \text{ units}^2$$

20.



$$P = 48 \text{ units}$$

$$A = 166.28 \text{ units}^2$$