Geometry- Mrs. Tilus   Name: _____
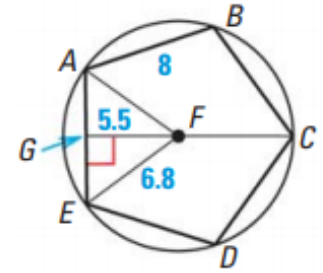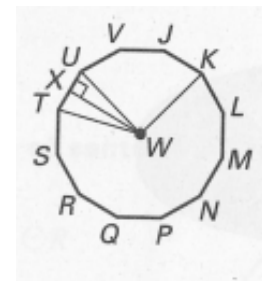Unit 11-Worksheet #6: Areas of Regular Polygons

In Exercises 1-4, use the diagram shown.

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

2. Identify a *central angle* of the polygon.
   What is the measure of the *central angle?*

3. Identify a *radius* of the polygon.
   What is the length of the *radius*?

4. Identify the *apothem.*
   What is the length of the *apothem*?

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.
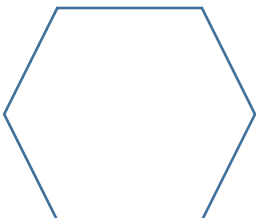
5. 20 sides   6. 7 sides   7. 30 sides

Find the given angle measure for the regular dodecagon shown.

8. $m\angle TWU$ 9. $m\angle TWX$

10. $m\angle XUW$ 11. $m\angle TWK$

12. $m\angle UWK$ 13. $m\angle XWK$
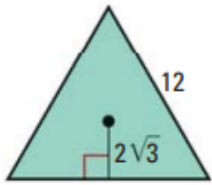
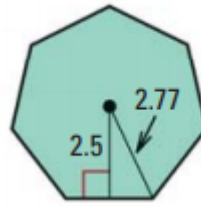14. A regular hexagon has a diameter 22 inches. What is the length of its apothem to the nearest hundredth?

Find the perimeter and area of the regular polygon. Round answers to the nearest hundredth, if necessary.
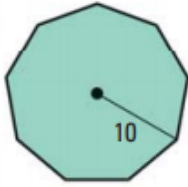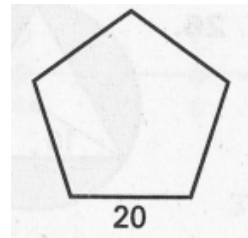
15.

12

$2\sqrt{3}$

16.

2.77

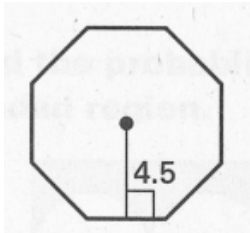2.5

17.

10

18.

20

19.

4.5

20.

8