

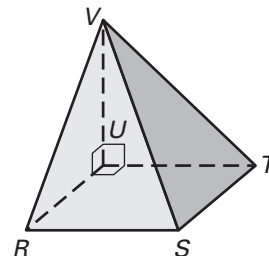
Challenge: Skills and Applications

For use with pages 735–742

In Exercises 1–5, give answers as decimals rounded to the nearest hundredth, where appropriate.

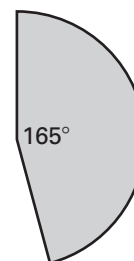
1. In the diagram, $RSTU$ is a square, $TU = 21$ in., $UV = 20$ in., and $\overline{UV}$ is perpendicular to the plane containing $RSTU$.

- Find TV and SV .
- Sketch a net of the pyramid.
- Find the surface area of the pyramid.



- The base of a regular pyramid is a square whose sides have length 8 cm. If a lateral edge of this pyramid has length 20 cm, what is the surface area of the pyramid?
- The base of a regular pyramid is a hexagon whose sides have length 5 ft. If a lateral edge of this pyramid has length 9 ft, what is the surface area of the pyramid?
- The sector shown in the diagram can be rolled up to form the lateral surface of a cone whose lateral surface area is 26 cm^2 .

- Find the slant height of the cone.
- Find the height and radius of the cone.



- The cone shown in the diagram has a base radius of 12 in. and a height of 35 in. The lateral surface of the cone shown in the diagram can be unrolled to form a sector like the one shown in Exercise 4.

- Find the central angle and the radius of the sector.
- Find the surface area of the cone.

