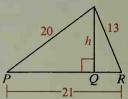
Find the value of h.

C .37.



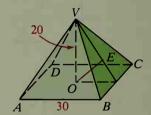
(*Hint*: Let PQ = x; QR = 21 - x.)



38.

(*Hint*: Let TU = x; SU = x + 11.)

**39.** O is the center of square ABCD (the point of intersection of the diagonals) and  $\overline{VO}$  is perpendicular to the plane of the square. Find OE, the distance from O to the plane of  $\triangle VBC$ .



## **Mixed Review Exercises**

Given:  $\triangle ABC$ . Complete.

- 1. If  $m \angle A > m \angle B$ , then  $BC > \frac{?}{}$ .
- 2. If AB > BC, then  $m \angle C \stackrel{?}{=} m \angle \stackrel{?}{=}$ .
- 3.  $AB + BC \stackrel{?}{\underline{\hspace{1em}}} AC$
- **4.** If  $\angle C$  is a right angle, then  $\frac{?}{}$  is the longest side.
- 5. If AB = AC, then  $\angle \frac{?}{} \cong \angle \frac{?}{}$ .
- 6. If  $\angle A \cong \angle C$ , then  $BC = \frac{?}{}$ .
- 7. If  $\angle C$  is a right angle and X is the midpoint of the hypotenuse, then  $AX = \frac{?}{} = \frac{?}{}$ .

## Challenge

Start with a right triangle. Build a square on each side. Locate the center of the square drawn on the longer leg. Through the center, draw a parallel to the hypotenuse and a perpendicular to the hypotenuse.

Cut out the pieces numbered 1-5. Can you arrange the five pieces to cover exactly the square built on the hypotenuse? (This suggests another proof of the Pythagorean Theorem.)

