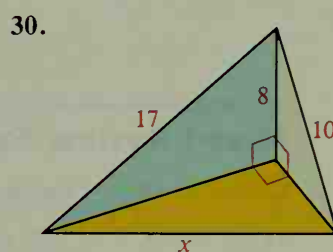
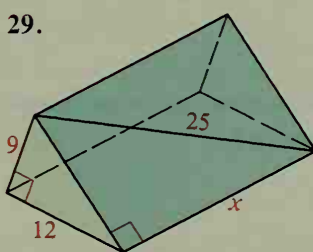
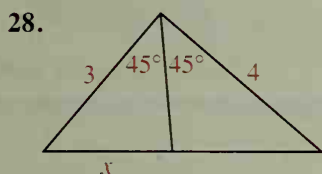
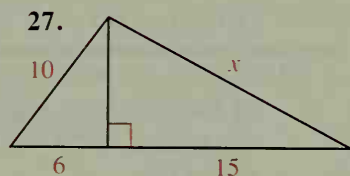
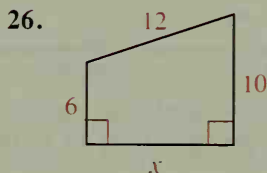
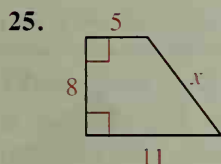
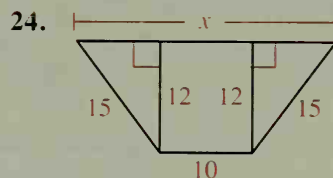
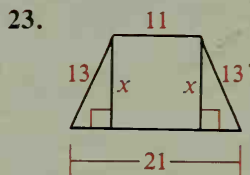
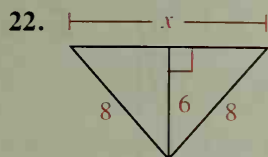


Find the value of x .



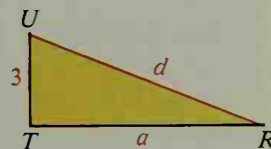
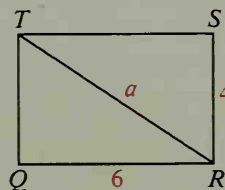
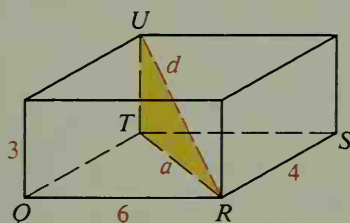
(Hint: Use the Angle-Bisector Theorem, p. 270.)

31. A right triangle has legs of 6 and 8. Find the lengths of:
 a. the median to the hypotenuse b. the altitude to the hypotenuse.
32. A rectangle is 2 cm longer than it is wide. The diagonal of the rectangle is 10 cm long. Find the perimeter of the rectangle.

In Exercises 33–36 the dimensions of a rectangular box are given. Sketch the box and find the length of a diagonal of the box.

Example Dimensions 6, 4, 3

Solution



$$\begin{aligned} a^2 &= 6^2 + 4^2 \\ a^2 &= 36 + 16 \\ a^2 &= 52 \end{aligned}$$

$$\begin{aligned} d^2 &= a^2 + 3^2 \\ d^2 &= 52 + 9 \\ d^2 &= 61 \\ d &= \sqrt{61} \end{aligned}$$

33. 12, 4, 3

34. 5, 5, 2

35. e , e , e

36. l , w , h