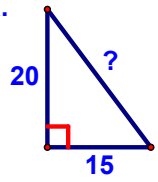
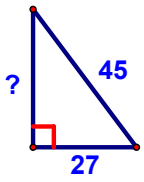
1.

**Find the missing side in each triangle (they are all from the 3-4-5 family):**

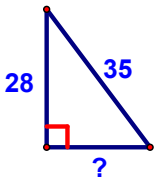
**a.**



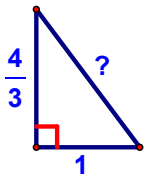

**b.**



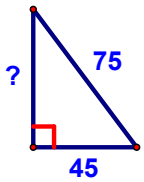

**c.**




**d.**



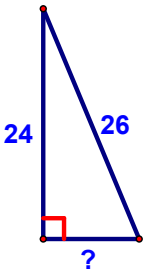

**e.**



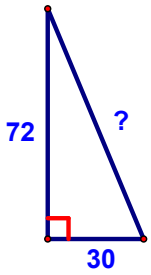

2.

**Find the missing side in each triangle (they are all from the 5-12-13 family):**

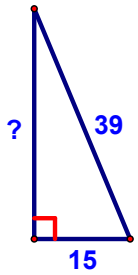
**a.**



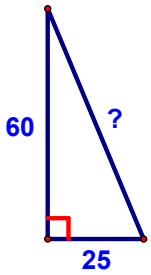

**b.**



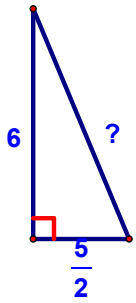

**c.**




**d.**



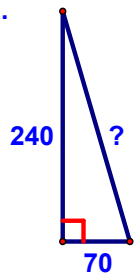

**e.**



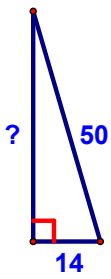

3.

**Find the missing side in each triangle (they are all from the 7-24-25 family):**

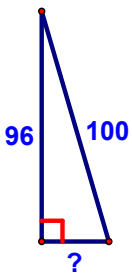
**a.**



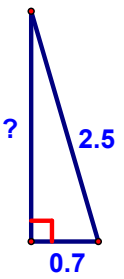

**b.**



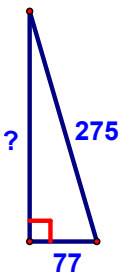

**c.**




**d.**



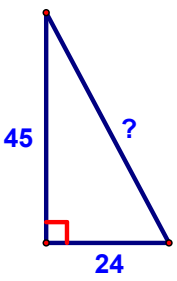

**e.**



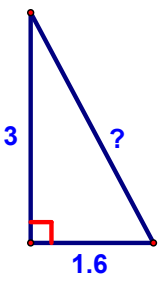

4.

**Find the missing side in each triangle (they are all from the 8-15-17 family):**

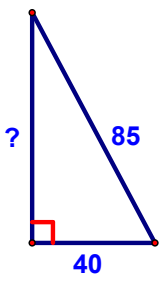
**a.**



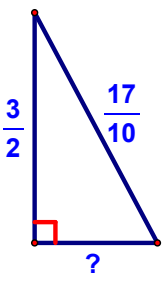

**b.**



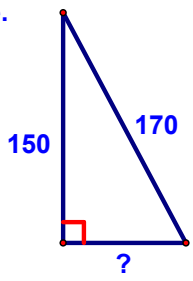

**c.**




**d.**



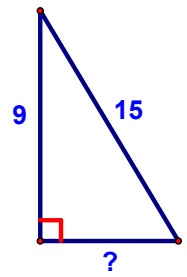

**e.**



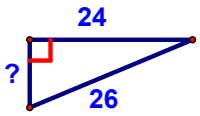
5.

**Find the missing side in each triangle:**

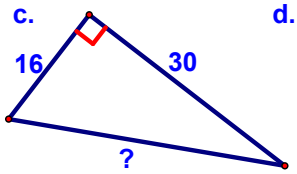
**a.**



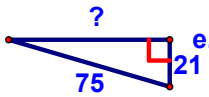

**b.**



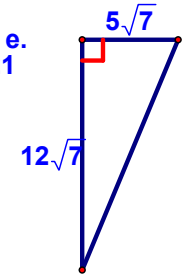

**c.**



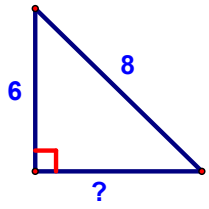

**d.**



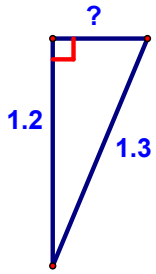

**e.**



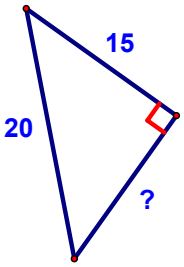

**f.**



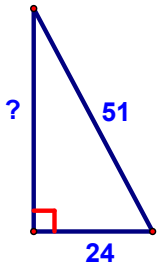

**g.**




**h.**

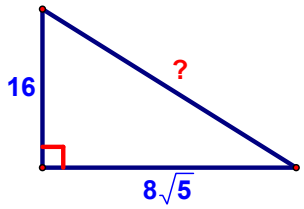


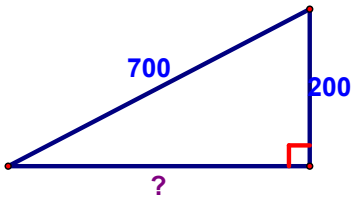

**i.**




9.

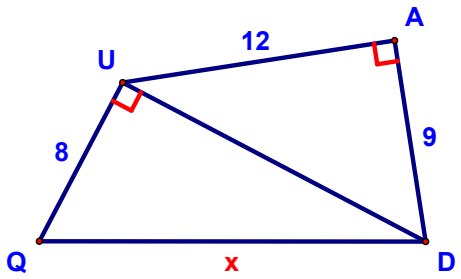
**Use the reduced-triangle principle to find each missing side.**



10.

**Find QD**



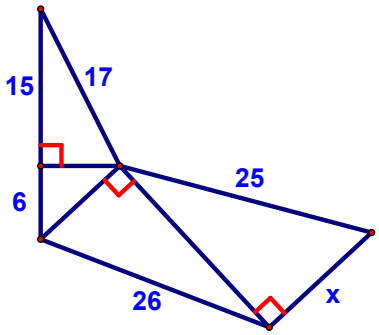

13.

**Mary and Larry left the riding stable at 10 a.m. Mary trotted south at 10 kph while Larry galloped east at 16 kph. To the nearest kilometer, how far apart were they at 11:30?**

**Stable**

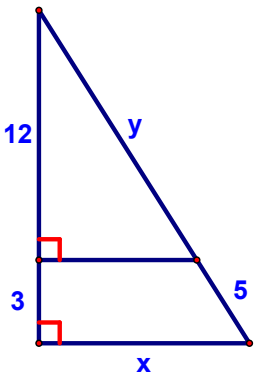
16a.

**Find x**




16b.

**Find x and y**

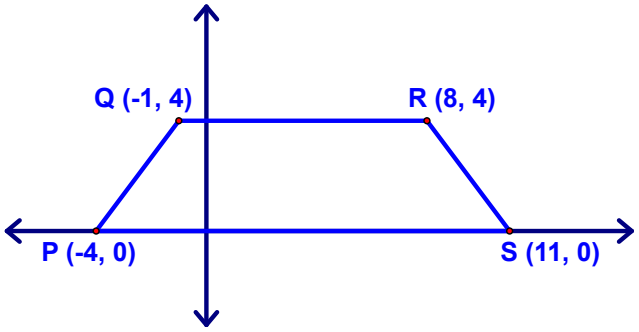


17.

**a. What is the most descriptive name for quadrilateral PQRS?**

**b. Find the area of PQRS**

**c. Find PR and QS**




18.

**A submarine travels an evasive course, trying to outrun a destroyer. It travels 1 km north, then 1 km west, then 1 km north, then 1 km west, and so forth, until it has traveled a total of 41 km. how many kilometers is the sub from the point at which it started?**

21.

**If a 650 cm ladder is placed against a building at a certain angle, it just reaches a point on the building that is 520 cm above the ground. if the ladder is moved to reach a point 80 cm higher up, how much closer will the foot of the ladder be to the building?**

22.

**The lengths of the legs of a right triangle are x and 3x + y. The length of the hypotenuse is 4x - y. Find the ratio of x to y.**