2. Find the Area of the triangles.

a.

C, 9m, 12m, A, B, 15m

b.

C, 25ft, 20ft, A, B, 35ft
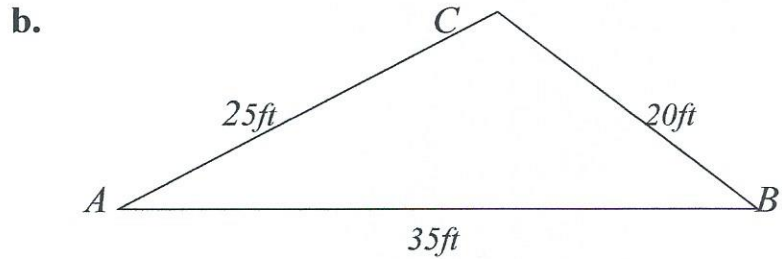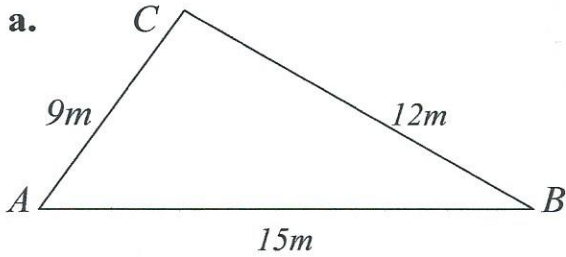
c. $a = 20cm$, $b = 20cm$, $c = 10cm$

d. $a = 5in$, $b = 7in$, $c = 10in$

$$S = \frac{5+7+10}{2} = 11$$

$$Area = \sqrt{11(11-5)(11-7)(11-10)} = \sqrt{220} = \underline{14.8 in^2}$$

3. A 100*ft* vertical tower is built on the side of a hill with an 8° incline. Find the length of the two guide wires that are anchored 75*ft* uphill and downhill from the base of the tower.

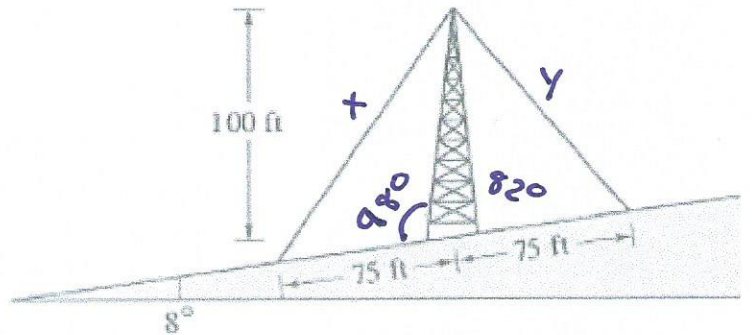$$x^2 = 75^2 + 100^2 - 2 \cdot 75 \cdot 100 \cdot \cos 98°$$

$$x^2 = 17712.6$$

$$x = \underline{111.9 ft}$$

$$y^2 = 75^2 + 100^2 - 2 \cdot 75 \cdot 100 \cdot \cos 82°$$

$$y^2 = 13,537.4 \qquad y = \underline{116.4 ft}$$

100 ft, x, y, 98°, 82°, 75 ft, 75 ft, 8°

4. To find the length of a swamp, a surveyor walks 950*ft* from point *A* to *B*. Next he turns 80° and walks 800*ft* to point *C*. Find the length of the swamp. SAS

B, 80°, 100°, 800 ft, 950 ft, C, A