Right Triangles Day 2- Solving Applications Homework

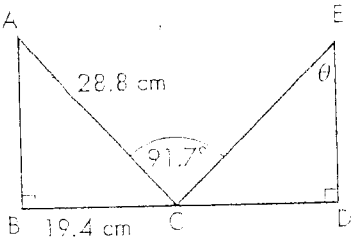
1. Solve each triangle and round answers to the nearest hundredth:

(a) In ΔABC, <A= 90 , <B=55.1 and *b*= 4.8 m

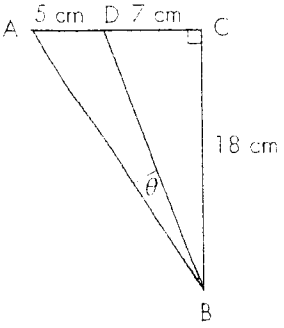
(b) In ΔDEF, <E= 90 , *d*=18.2 cm and *f*= 14.9 m

2. Find the measure of <θ to the nearest tenth of a degree:

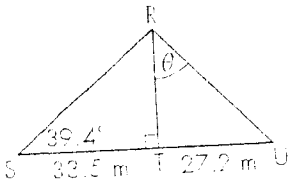
a)



b)

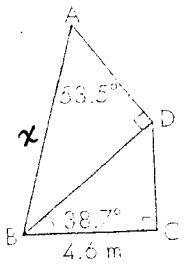


c)

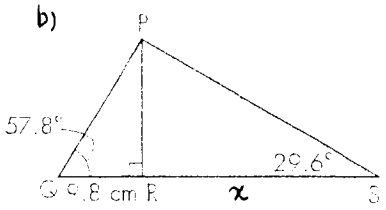


3. Find the length of side x to the nearest tenth:

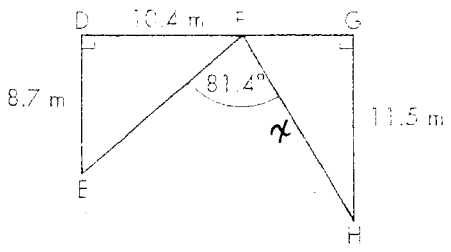
a)



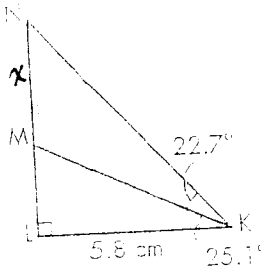
b)



c)



d)



4. Determine all 6 trigonometric ratios if cos θ = 7/9

5. The angle of elevation of a favourite tree at Victoria Park in Sydney is 66° when a distance of 14 m is marked off from the base of the tree. Calculate the height of the tree.

6. From a traffic helicopter, 620 m in the air, an accident is located at an angle of depression of 28 . How far along the highway is the accident?

7. From a hot air balloon, the angle of depression of a town is 7° . If the observation deck of the balloon is 250 m high, how far away, horizontally, is the town?

ANSWERS

1. (a) <C=34.9, a=5.85,c=3.35 (b) <D=50.69, <F=39.31, e=23.52 2. (a) 49.35° (b) 12.44° (c) 44.66°
3. (a) x=7.33 m (b) 27.39 cm (c) 13.46 m (d) 3.68 cm

4. sin θ= $\frac{4\sqrt{2}}{9}$. tan θ= $\frac{4\sqrt{2}}{7}$. csc θ= $\frac{9\sqrt{2}}{8}$. sec θ= $\frac{9}{7}$. cot θ= $\frac{7\sqrt{2}}{8}$ 5. 31.4 m 6. 1166 m 7. 2036 m