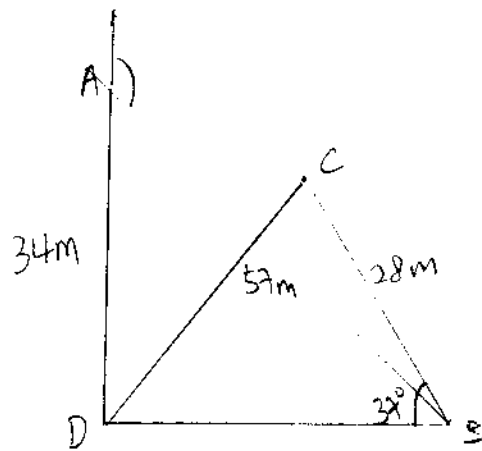


Weekend homework wk 5



i) $\cos \angle BAD = \frac{34}{57} = 0.59649$

$$\angle BAB = 53.4^\circ$$

ii) Bearing of B from A

$$= 180^\circ - 53.3810^\circ$$

$$= 126.6^\circ$$

iii) ~~$\frac{DB}{\sin}$~~ $\sin 53.3818 = \frac{DB}{57}$

$$DB = 45.7493 \text{ m}$$

$$\text{Area of } BCD = \frac{1}{2} (45.7493)(28) \sin 37^\circ$$

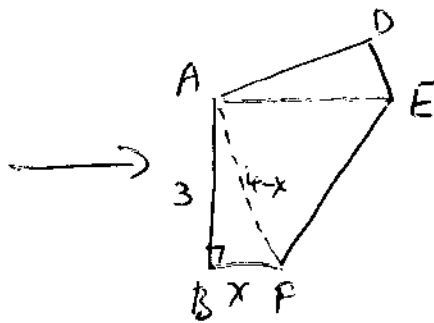
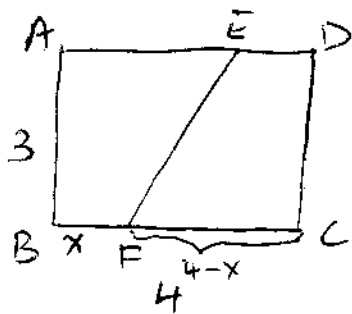
$$= 385.45$$

$$\approx 385 \text{ m}^2$$

iv) $CD^2 = 28^2 + 45.7493^2 - 2(28)(45.7493) \cos 37^\circ$

$$= 830.9255$$

$$CD = 28.8 \text{ m}$$



By Pythagoras,

$$x^2 + 3^2 = (4-x)^2$$

$$x^2 + 9 = 16 - 8x + x^2$$

$$8x = 7$$

$$x = \frac{7}{8}$$

$$\therefore BF = \frac{7}{8} \text{ cm.}$$

3ai $\tan 60^\circ = \frac{AC}{20}$

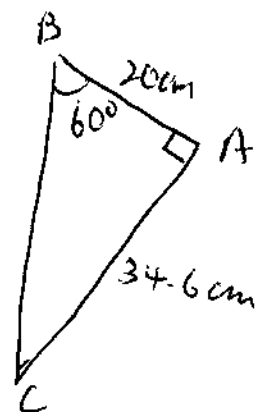
$$AC = 20 \times 1.73$$

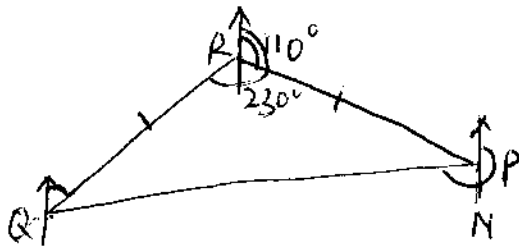
$$= 34.6 \text{ cm}$$

3aii $\cos 60^\circ = \frac{20}{BC}$

$$BC = \frac{20}{0.5}$$

$$= 40 \text{ cm}$$





$$\begin{aligned} \text{4a. } \therefore \angle QRP &= 230^\circ - 110^\circ \\ &= 120^\circ \# \end{aligned}$$

$$\begin{aligned} \text{4b. Bearing of R from Q} &= 230^\circ - 180^\circ \\ &= 50^\circ \\ &= 050^\circ \# \end{aligned}$$

$$\begin{aligned} \text{4c. } \angle RQP &= \frac{180^\circ - 120^\circ}{2} \\ &= 30^\circ \end{aligned}$$

$$\begin{aligned} \therefore \angle QPN &= 30^\circ + 50^\circ \text{ (Alt. \(\angle\)'s)} \\ &= 80^\circ \end{aligned}$$

$$\begin{aligned} \text{Bearing of Q from P} &= 180^\circ + 80^\circ \\ &= 260^\circ \# \end{aligned}$$