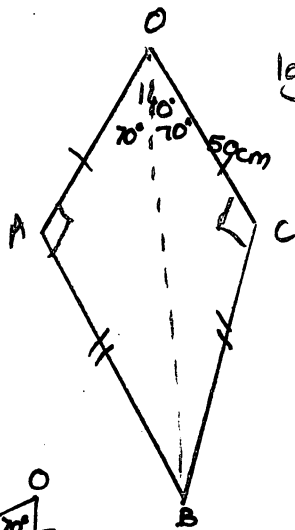


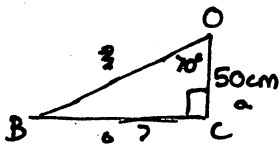
Circle 2 - Solutions

Q1. Major Sector $\Rightarrow 360^\circ - 140^\circ = 220^\circ$

$\frac{220}{360} \times \pi \times 100 = 191.99 \text{ cm}$



Ignore the badly drawn diagram!



Need BC $\begin{matrix} s^\circ & H \\ & C \\ & A \end{matrix}$

$\tan 70^\circ = \frac{CB}{50}$

SO $\tan 70^\circ = \frac{CB}{50}$

$CB = 137.4 \text{ cm}$

$AB = CB = 137.4 \text{ cm}$

Total perimeter: $137.4 + 137.4 + 191.99 = 466.79 \text{ cm}$

Q2. $\frac{x}{360} \times \pi D = 28.6$

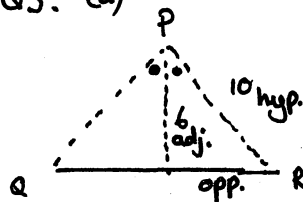
$\frac{x}{360} \times \pi \times 40 = 28.6$

$\frac{x}{360} \times 125.7 = 28.6$

$\frac{x}{360} = 28.6 \div 125.7$

$\frac{x}{360} = 0.227 \dots$
 $\times 360 \quad \times 360$
 $x = 81.9^\circ$

Q3. (a)



$\cos x = \frac{6}{10}$

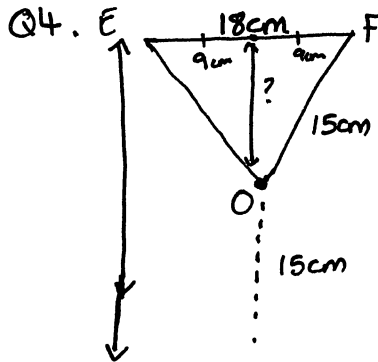
$\cos x = 0.6$

$x = \cos^{-1} 0.6$

$x = 53.1^\circ$

$\angle QPR = 53.1 \times 2 = 106.2^\circ$

(b) Arc QR = $\frac{106.2}{360} \times \pi \times 20 = 18.5 \text{ cm}$



$?^2 = 15^2 - 9^2$

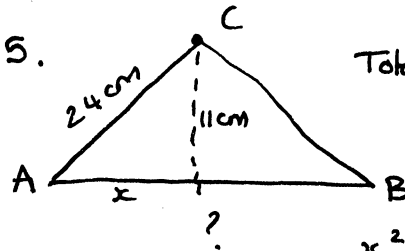
$= 225 - 81$

$?^2 = 144$

$? = \sqrt{144} = 12 \text{ cm}$

Total width = $12 + 15 = 27 \text{ cm}$

Q5.



Total height = 35 cm

$35 - 24 = 11 \text{ cm}$

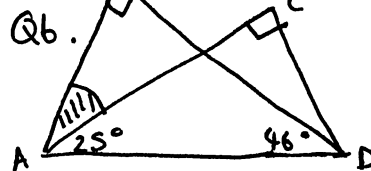
$x^2 = 24^2 - 11^2$

$= 576 - 121$

$= 455$

$x = \sqrt{455} = 21.3 \text{ cm}$

$AB = 21.3 \times 2 = 42.6 \text{ cm}$

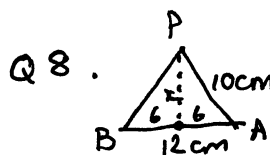


$180^\circ - (90^\circ + 46^\circ)$

$= 180^\circ - 136^\circ = 44^\circ$

$\hat{BAC} = 44^\circ - 25^\circ = 19^\circ$

Q7. $\frac{x}{360} \times \pi D = \frac{118}{360} \times \pi \times 21 = 21.6 \text{ cm}$



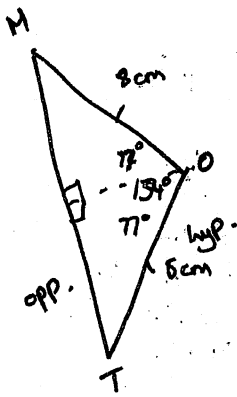
$x^2 = 10^2 - 6^2 = 100 - 36 = 64$

$x = \sqrt{64} = 8 \text{ cm}$

$PQ = 8 \times 2 = 16 \text{ cm}$

Q9. (a) $90^\circ - 77^\circ = 13^\circ$ Not isosceles
 $\hat{MOT} = 180^\circ - (13^\circ + 13^\circ) = 154^\circ$

(b) next page



S H C H T A

$$\sin 77^\circ = \frac{o}{8} \times 8$$

$$8 \sin 77^\circ = 7.79 \text{ cm} = \text{opp.}$$

$$MT = 7.79 \times 2 = \underline{\underline{15.58 \text{ cm}}}$$