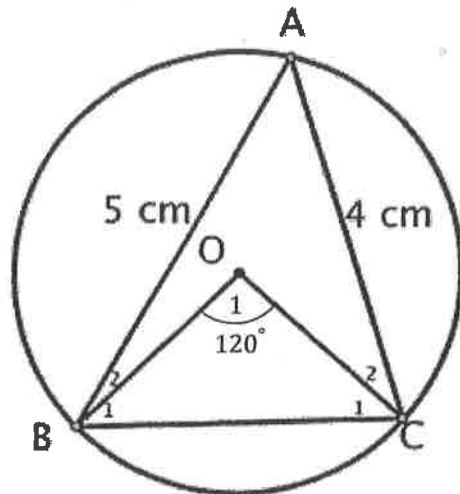


QUESTION 4 [7 MARKS]

O is the centre of the circle ABC and $\hat{O}_1 = 120^\circ$.

Chords AB and AC are 5 cm and 4 cm respectively.

Calculate the length of the radius OC .



$$A = 60^\circ \text{ (Lat centre = } 2 \times \text{Lat circ.)} \quad \checkmark \text{ a with reason.}$$

$$BC = \sqrt{5^2 + 4^2 - 2(5)(4)\cos 60}$$

$$= \sqrt{21} \quad \checkmark \text{ m for using cos rule.}$$

$$B_1 + C_1 = 60^\circ \text{ (sum } \angle \Delta) \quad \checkmark \text{ reason.}$$

$$B_1 = C_1 = 30^\circ \text{ (= angles opp = sides)} \quad \checkmark \text{ a}$$

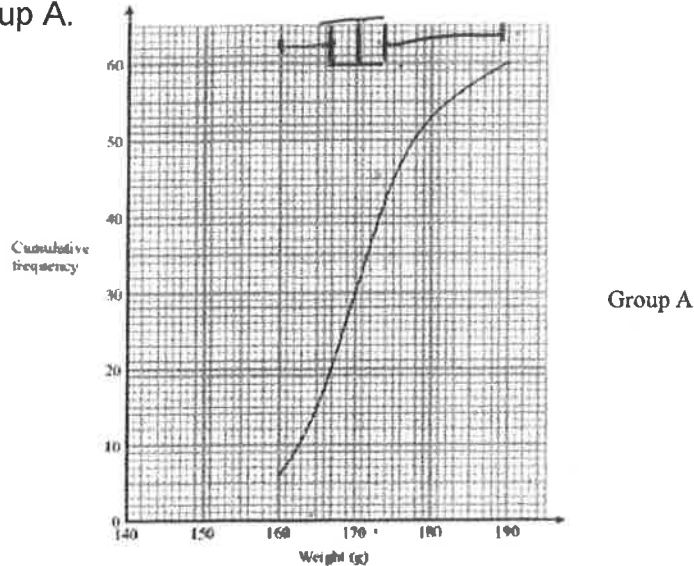
$$\Delta OBC \quad \frac{OC}{\sin 30} = \frac{\sqrt{21}}{\sin 20} \quad \checkmark \text{ m}$$

$$OC = \frac{\sqrt{21} \sin 30}{\sin 20}$$

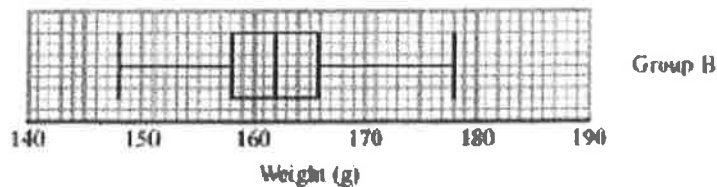
$$= \sqrt{7} \text{ (2,6) } \quad \checkmark \text{ a}$$

QUESTION 7 [9 MARKS]

- (a) Harry grows tomatoes. This year he put his tomato plants into two groups, Group A and Group B. Harry gave fertiliser to the tomato plants in Group A. The cumulative frequency graph shows some information about the weights of the tomatoes in Group A.



Harry did not give fertiliser to the tomato plants in Group B. Harry weighed 60 tomatoes from Group B. He drew this box plot for his results from Group B.



Compare the distribution of the weights of the tomatoes from Group A with the distribution of the weights of the tomatoes from Group B. (3)

min/max ✓ Min group A is 160 kg / Group B 148g
 Skewness comparison. Max group A is 190 kg / Group B 178g.

Group A marks skewed to the right.

Group B median of 162 g - Group A median of 169 g -