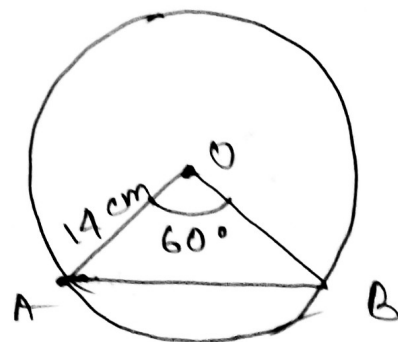


1) The minimum age of children eligible to participate in a painting competition is 8 years. It is observed that the age of the youngest boy was 8 years and the age of the participants, when seated in order of age, have a common difference of 4 months. If the sum of the ages of all the participants is 168 years, find the age of the eldest participant in the competition. [3]

2) The distribution given below shows the no. of wickets taken by bowlers in one-day cricket matches. Find the mean and median of the number of wickets taken. [2.5 + 2.5 = 5]

No. of wickets	20-60	60-100	100-140	140-180	180-220	220-260
No. of bowlers	7	5	16	12	2	3

3) AB is a chord of a circle centered at O such that $\angle AOB = 60^\circ$ and $OA = 14$ cm. Find the area of the minor segment. [Take $\pi = \frac{22}{7}$, $\sqrt{3} = 1.73$] [2]



[4] Prove that the parallelogram circumscribing a circle is rhombus. [3]

[5] Prove that,

$$(1 + \cot \theta - \operatorname{cosec} \theta)(1 + \tan \theta + \sec \theta) = 2 \quad [3]$$