

LC4 2017 Paper 2, Q3

Question 3

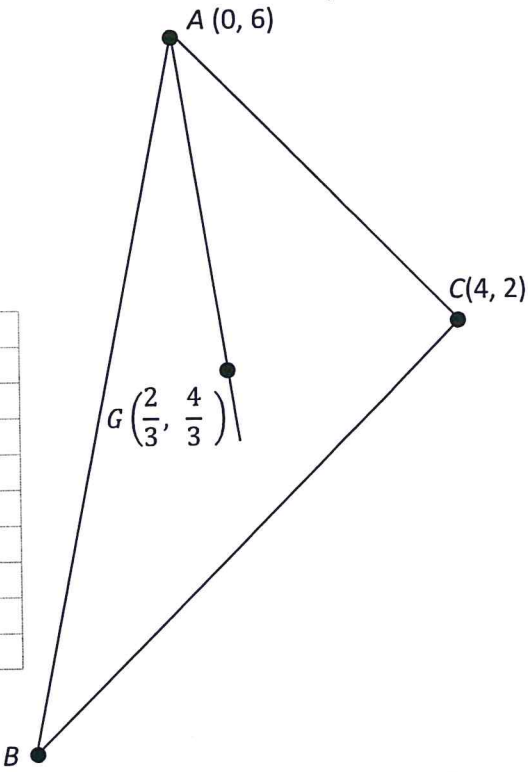
(25 marks)

ABC is a triangle where the co-ordinates of A and C are $(0, 6)$ and $(4, 2)$ respectively.

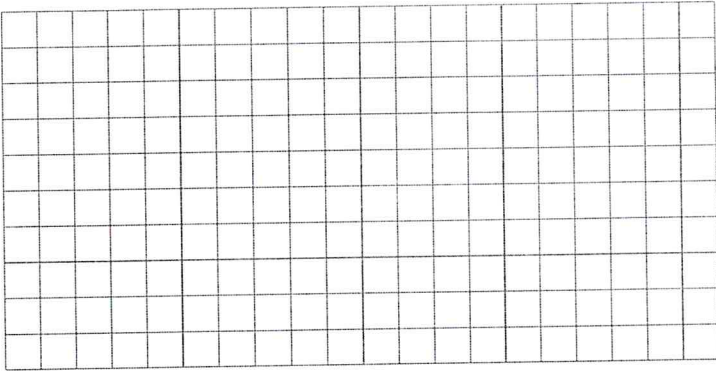
$G\left(\frac{2}{3}, \frac{4}{3}\right)$ is the centroid of the triangle ABC .

AG intersects BC at the point P .

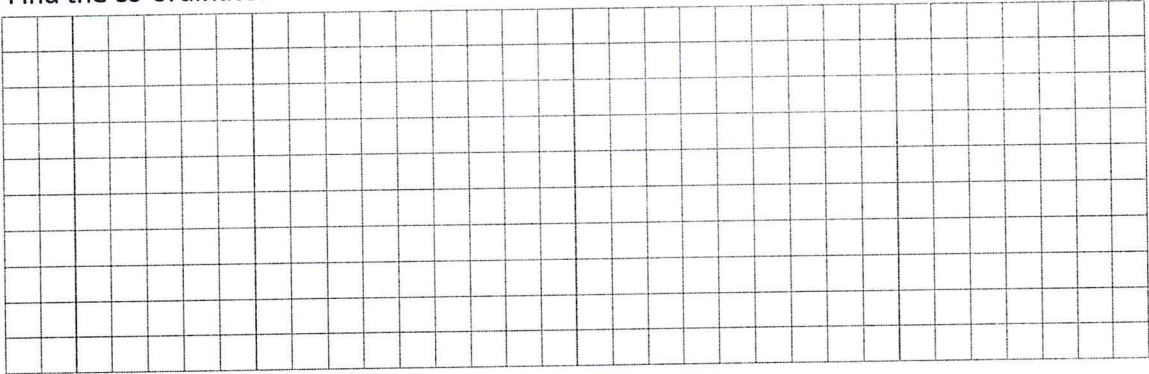
$|AG| : |GP| = 2 : 1$.



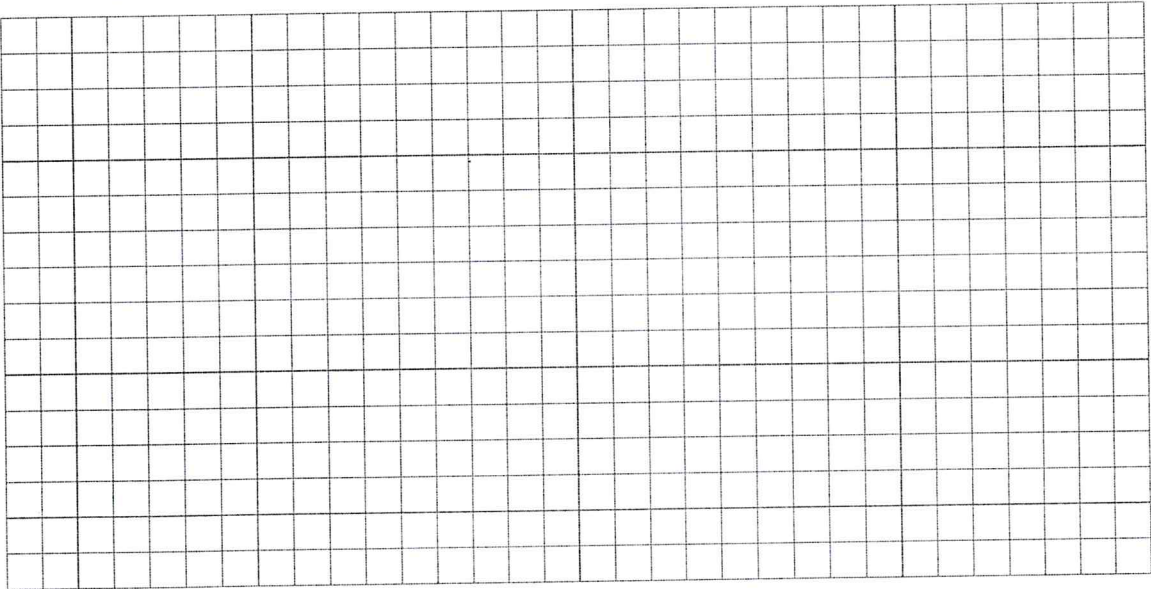
(a) Find the co-ordinates of P .



(b) Find the co-ordinates of B .



(c) Prove that C is the orthocentre of the triangle ABC .



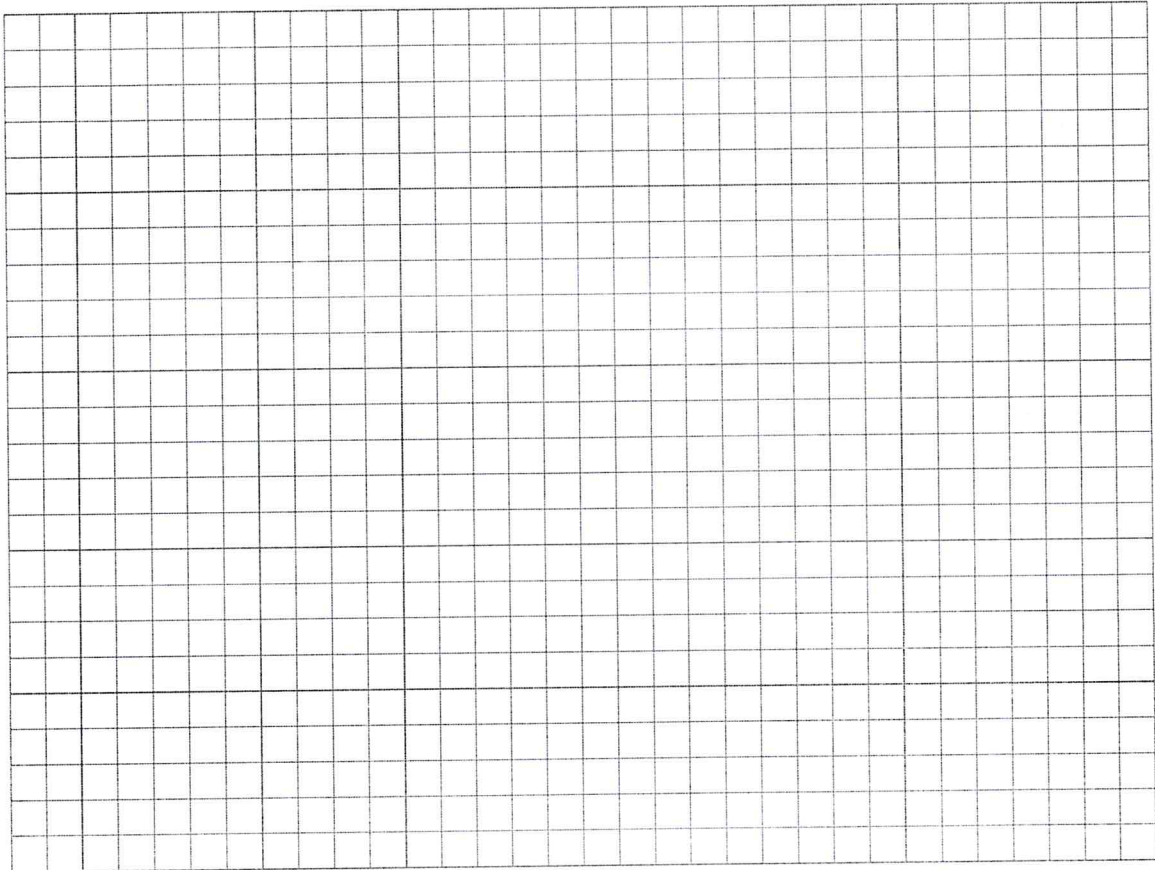
LCH 2017 Paper 2, Q4

Question 4

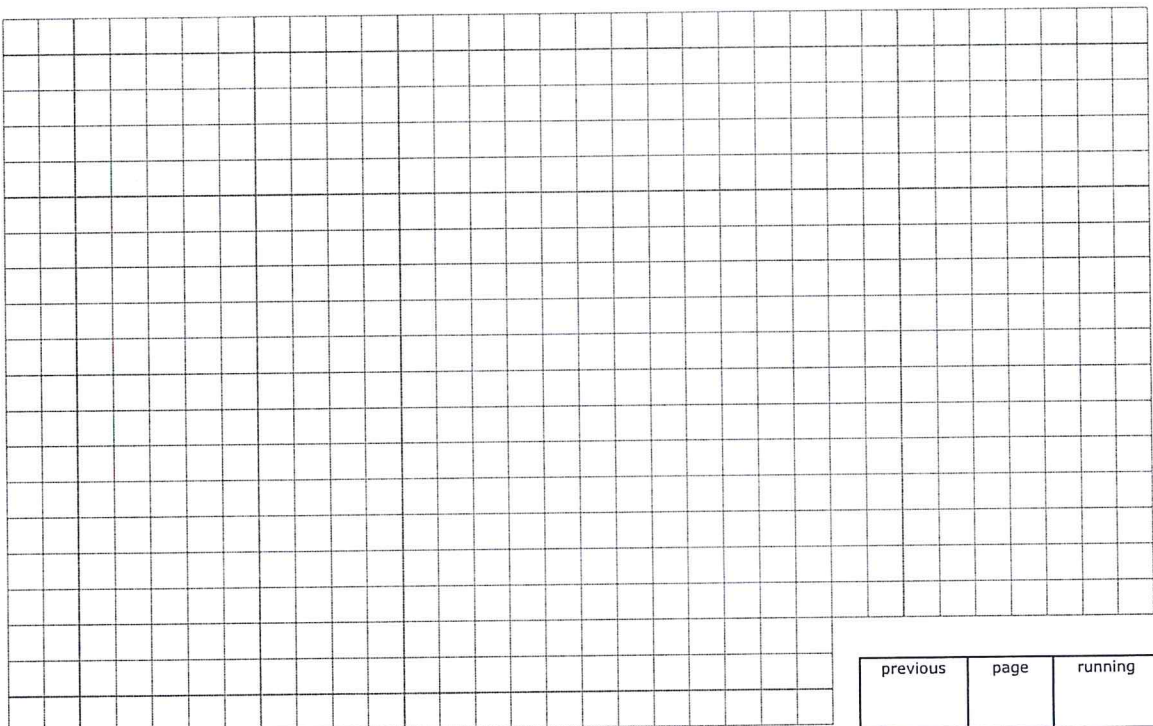
(25 marks)

$A(0, 0)$, $B(6.5, 0)$ and $C(10, 7)$ are three points on a circle.

(a) Find the equation of the circle.



(b) Find $|\angle BCA|$. Give your answer in degrees, correct to 2 decimal places.



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