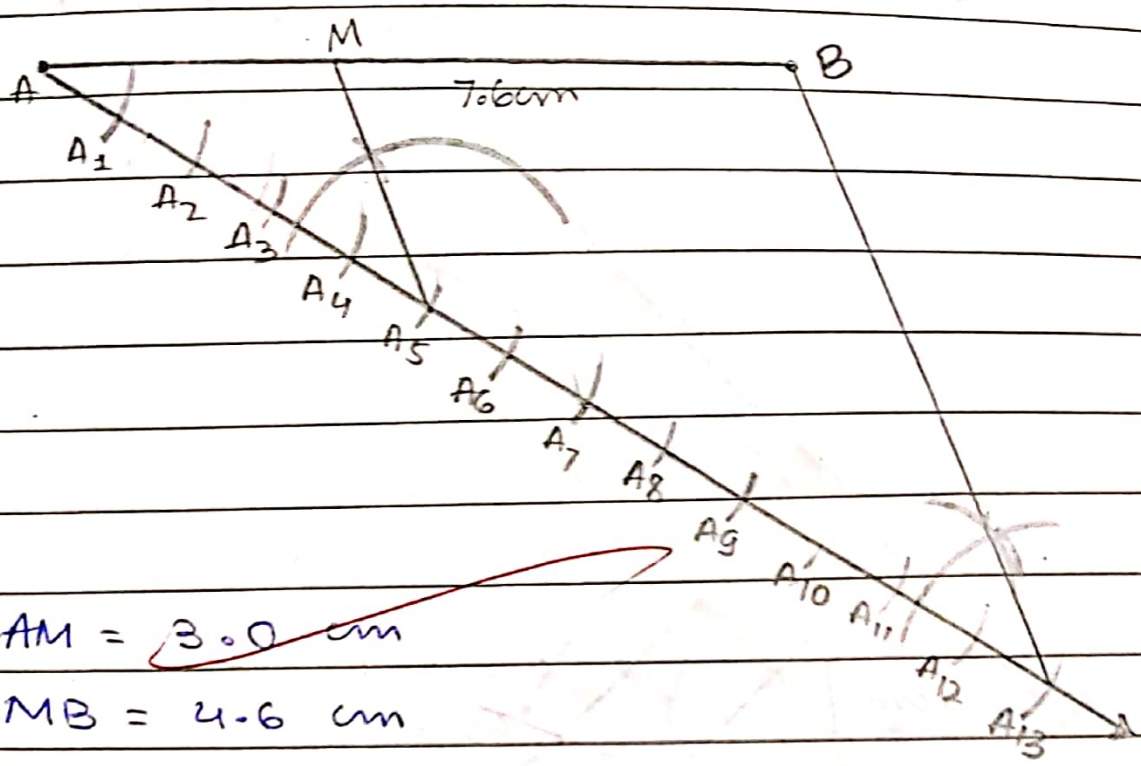
CONSTRUCTIONS

(1) Division of a line segment

(a) To divide a line segment in a given ratio

(b) To construct a triangle similar to a given triangle.



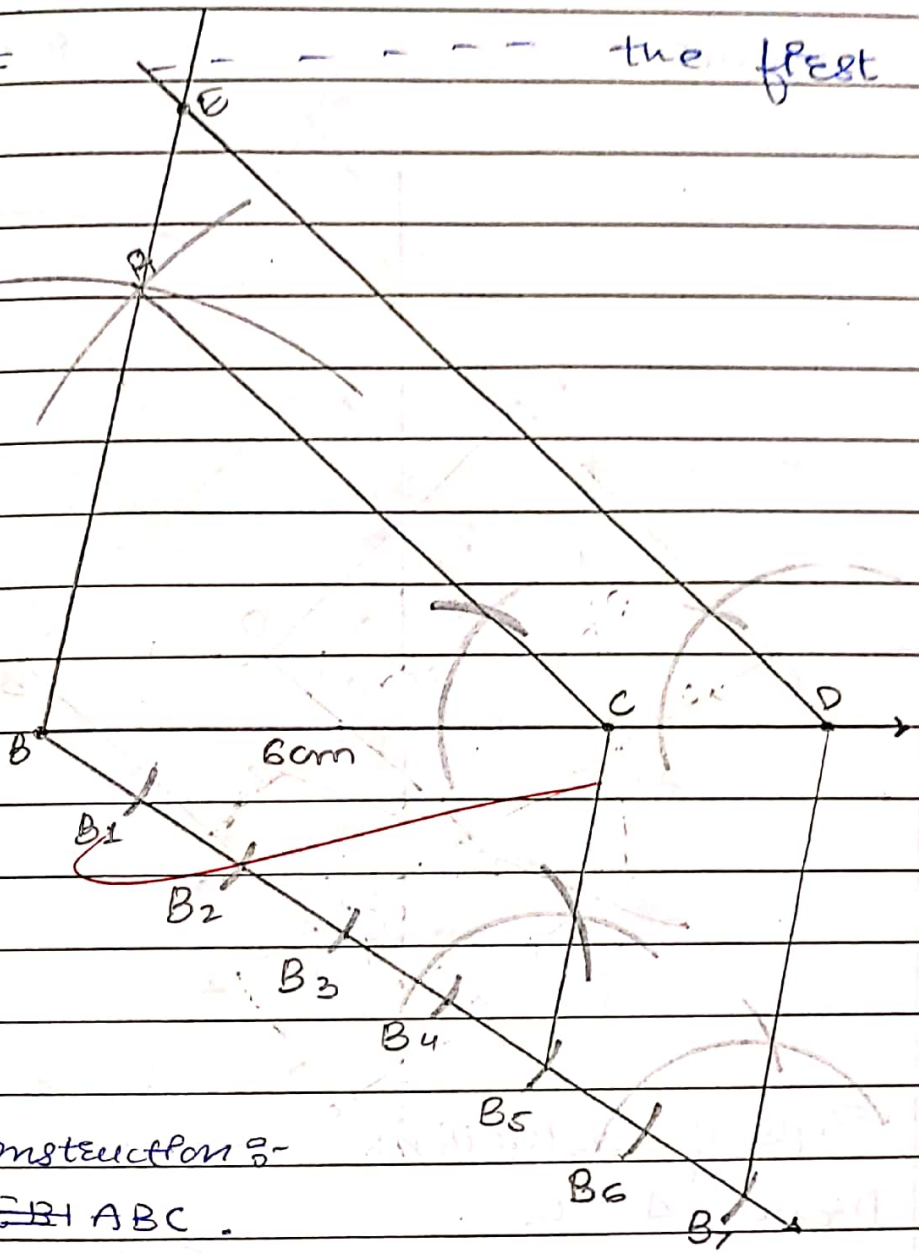
AM = 3.0 cm

MB = 4.6 cm

Steps of Construction :-

1. Draw a line segment of 7.6 cm, AB.
2. Draw another line from point A, at acute angle.
3. Cut the line into 13 parts.
4. Join A_{13} to B.
5. Join A_5 to M.

3] Construct - - - - - - the first triangle.



Steps of Construction :-

(1) Draw $\triangle$ ~~EBI~~ ABC.

(2) Draw line BB_7.

(3) Draw line DB_7

(4) Draw a line parallel to AC, i.e., AC $\parallel$ ED.

(5) $\triangle$ EBD is the required triangle.

* CONSTRUCTION OF TANGENTS TO A CIRCLE

To construct the tangents to a circle from a point outside it.

4 Each of the following, give also the justification of the construction:

1 Draw - - . . - - - lengths.

→ Steps of construction

(1) Draw a circle with centre O.

(2) Join O to P.

(3) Draw a perpendicular bisector from OP.

(4) Mark the point M.

(5) Draw a circle by taking OM as the radius from point M.

(6) Where, the circle cuts ~~the~~ the previous circle, draw lines from P.

(7) PR & PQ are tangents.

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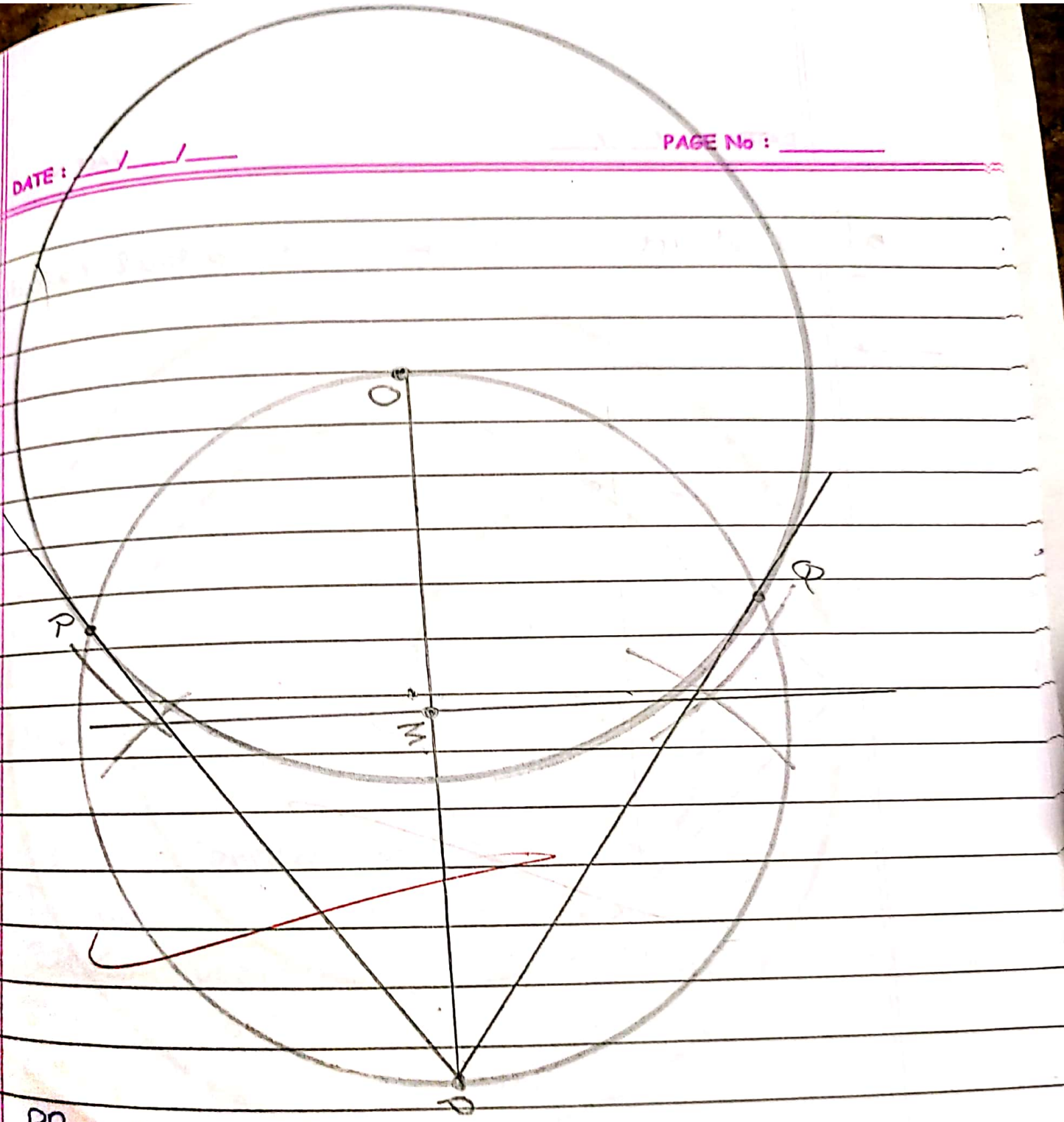
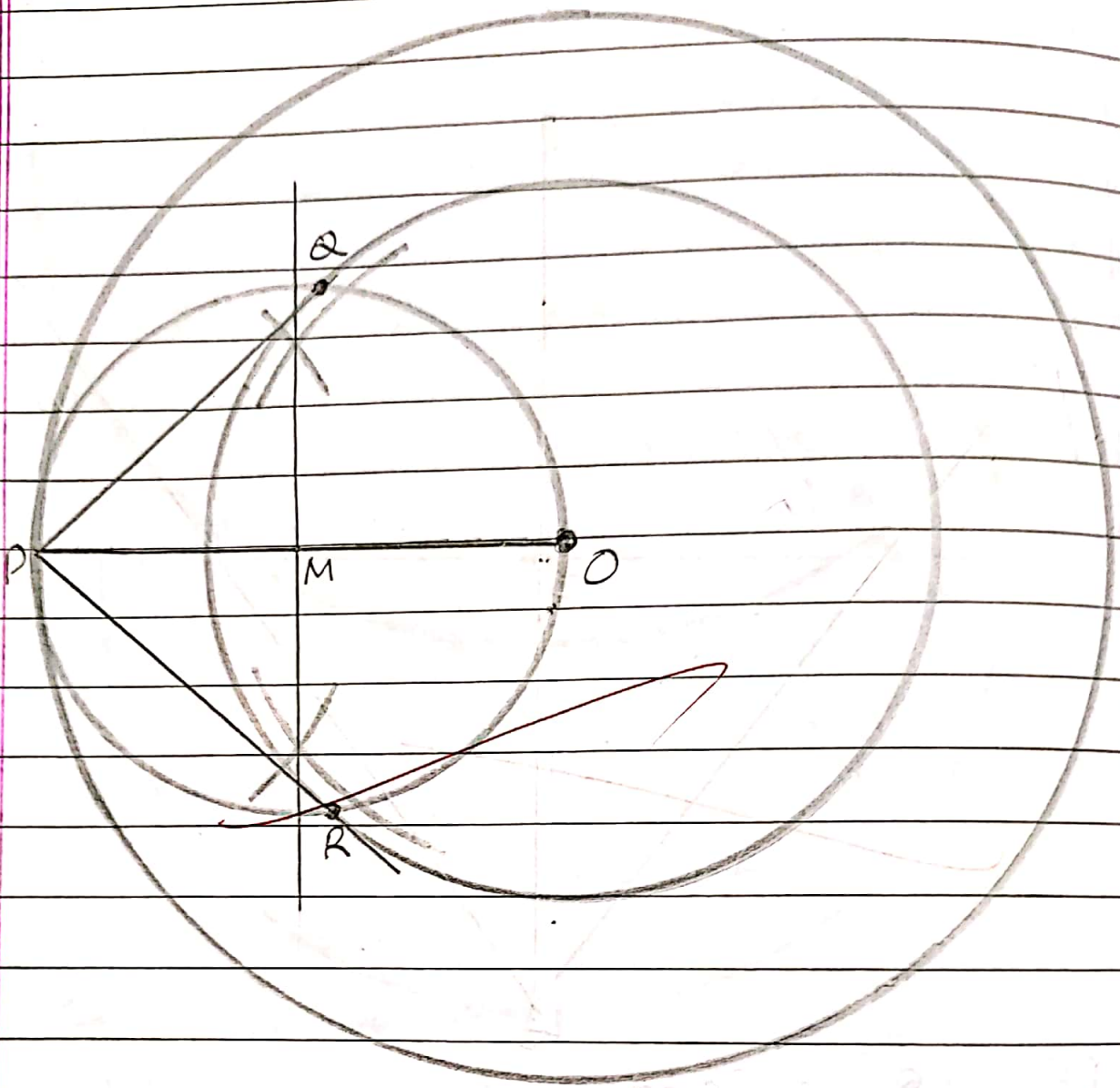


PR = PQ = 8cm

2] Construct — — — — — actual calculation.

→



Steps of Construction :-

1. Draw a circle, with radius OP from O.
2. Draw another concentric circle.
3. Bisect the line OP.
4. Draw a circle from M with radius OM.
5. Where the lines intersect inner circle, draw the the lines form P.