FIRST MID TERM EXAMINATION 2014-15   105 E

MATHEMATICS

Time : 1 hr.

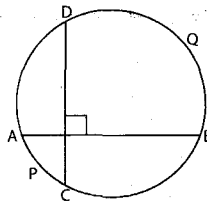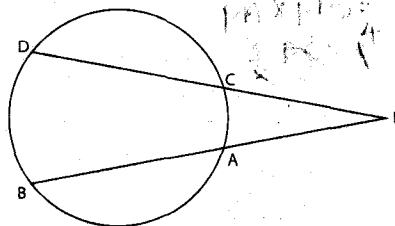**Std - X**   Total Marks : 25

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1.   Write an arithmatic sequence with common difference 3. Find its 10th term and n^{th} term
      Is the difference between any two terms of the sequence equal to 50 ?   (2)

2.   In the figure AB $\perp$ CD prove that the arc APC and arc BQD form a semi circle   (2)
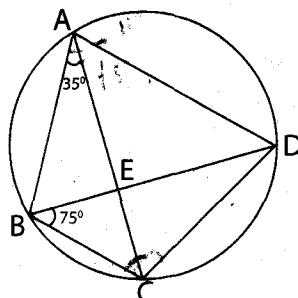

3.   The sum of the first 15 terms of an arithmatic sequence is 495 and the sum of first 25 terms is
      1325. What is its first term and common difference, find the sum of the first n terms   (3)

4.   Draw a Circle of radius 4 cm. Draw a triangle of angles 40^0 60^0 and 80^0 with vertex on the
      Circle.   (3)

5.   In the arithmatic sequence the ratio of the 5th and 8th terms in 1:7 Find the ratio of the 6th
      and 15 terms. If the 7th term is 10. What is its 22nd term.   (2)

6.   In the figure PA $= \frac{3}{2}$ PC and PB = 8 cm Find PD   (2)

7.   x–5, x–3, 2x–2 are the first three terms of the arithmatic sequence what is x. Find its
      common difference. What is its 25th terms   (2)

8.   In the figure $\angle$ CBD = 75° $\angle$ CAB = 35° find $\angle$ BCD. If AB = BC   (2)
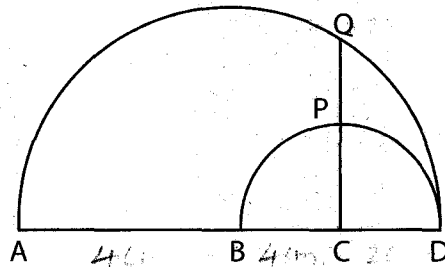   then what is $\angle$ ECD.

9. By how much in the sum of the first 25 terms of the arithmatic sequence 3, 6, 9 .... greater than the sum of the first 25 terms of the arithmatic sequence 6, 12, 18 .... (3)

10. In the figure B and C are points on the line AD and Semi circle are drawn with diameters AD and BD. AD = 10 cm BD = 6 cm, CD =2 cm. What is the length of the CP. Find QP. (4)

BD = 6
CD = 2
AD = 10
∠P =
∠

AC ×

8 × 2 =

A   4   B 4cm C   D

$25(\ )$

3, 6, 9
$\dfrac{25}{2}(6 + 24 \times 3)$

$\dfrac{25}{2} + 78$

975

6, 12, 18
$\dfrac{25}{2}(12 + 24 \times)$

$\dfrac{25}{2} \times \dfrac{78}{}$

$= 1950$

$1950 - 975 = 975$