INDIAN SCHOOL SOHAR   *Set 1*
PERIODIC TEST III
MATHEMATICS

STD: IX   **Marks: 20**
09-01-18   **Time : 40 minutes**


General Instructions:
(i) **All questions are compulsory**
(ii) The question paper consists of *9* questions divided into four sections *A, B, C and D.*
(iii) Section *A* contains *3* questions of *1* mark each. Section *B* contains *2* questions of *2* marks each.
     Section *C* contains *3* questions of *3* marks each. Section *D* contains *1* question of *4* marks.
(iv) **T**here is no overall choice. However, an internal choice has been provided in four questions.
     You have to attempt only one of the alternatives in all such questions.
(v) Use of calculators is not permitted

Section A
Question numbers 1 to 3 carry 1 mark each.

1. Evaluate $\sqrt{\left(3^{-2}\right)}$

2. If x+2 is a factor of $2x^3- k$, find value of k

3. In the figure, AOB is a straight line. Find the measure of $\angle$COD
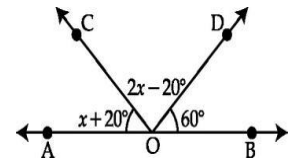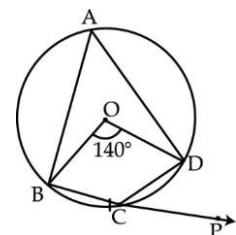

Section B
Question numbers 4 and 5 carry 2 marks each.

4. Prove that equal chords of a circle subtend equal angles at the centre.

OR

In the figure, O is the centre of the circle. Arc BCD subtends an angle of 140°at the centre. BC is produced to P and CD is joined. Find measure of $\angle$DCP.
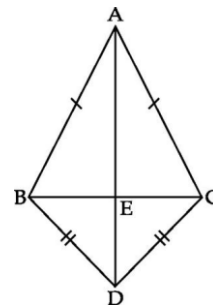

5. Show that if the diagonals of a quadrilateral bisect each other at right angles, then it is a rhombus.

6. Give the equations of two lines passing through (−3, 4). How many more such lines are possible ?

7. In the given figure, if two isosceles triangles have a common base, prove that line segment joining their vertices bisects the common base at right angles.

OR

In Fig. given below, AD is the median of ∆ABC. BE ⊥ AD, CF ⊥ AD. Prove that BE = CF
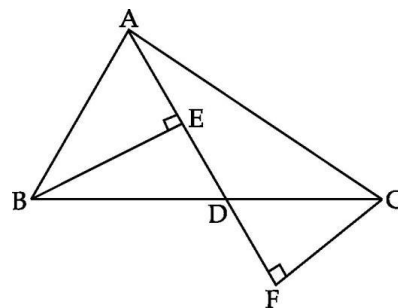
8. Parallelograms on the same base and between same parallels are equal in area. Prove this.

OR

Diagonals AC and BD of quadrilateral ABCD intersect each other at O in such a way that ar (AOD) = ar (BOC). Prove that ABCD is a trapezium.

Section D
Question number 9 carries 4 marks

9. Construct a right triangle whose perimeter is 10 cm and one acute angle is 60°

OR

Construct a ∆PQR in which QR = 7 cm, ∠ Q = 45° and PQ − PR = 3 cm.

****************THE END************