No of printed pages:2

INDIAN SCHOOL SOHAR ***SET 2***

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.

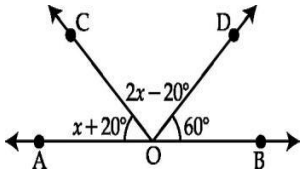
(iv) There is no overall choice. However, an internal choice has been provided in four questions. You have to attempt only one of the alternatives in all such questions.

(v) Use of calculators is not permitted

Section A

Question numbers 1 to 3 carry 1 mark each.

1. Evaluate $\sqrt{(5^{-2})}$
2. If x+1 is a factor of $2x^3 - k$, find value of k
3. In the figure, AOB is a straight line. Find the measure of $\angle AOC$



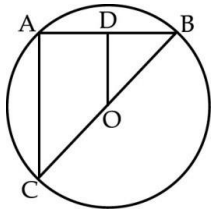
Section B

Question numbers 4 and 5 carry 2 marks each.

4. Prove that if chords of a circle subtend equal angles at the centre, then the chords are equal.

OR

OD is perpendicular to chord AB of a circle whose centre is O. If BC is a diameter, prove that CA = 2 OD



5. Show that the diagonals of a rhombus are perpendicular to each other.

Section C

Question numbers 6 to 8 carry 3 marks each.

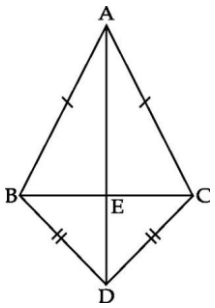
6. . Parallelograms on the same base and between same parallels are equal in area. Prove this.

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.

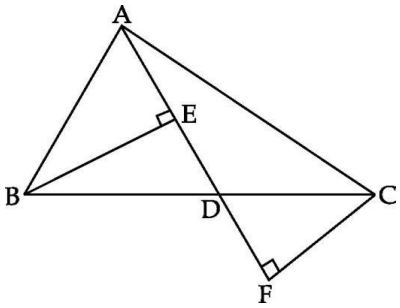
7. Give the equations of two lines passing through (−2, 4). How many more such lines are possible ?

8. 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 ΔABC. BE ⊥ AD, CF ⊥ AD. Prove that BE = CF



Section D

Question numbers 9 carries 4 marks

9. Construct a right triangle whose perimeter is 13 cm and one acute angle is 30°

OR

Construct a ΔABC in which BC = 5.7 cm, ∠ B = 30° and AB − AC = 3 cm.