SET 1

INDIAN SCHOOL SOHAR
FORMATIVE ASSESSMENT III 2015-2016
X – MATHEMATICS

Date : 16/11/15	**Duration :40 minutes**	**Max. Marks : 20**

General instructions

- All questions are compulsory
- Section A comprises3 questions of 1 mark each
- Section B comprises2 questions of 2 marks each
- Section C comprises3 questions of3 marks each
- Section D comprises1 question of 4 marks

SECTION -A

1. What is the nature of the roots of the quadratic equation $4x^2 - 4\sqrt{3}\,x + 3 = 0$?
2. What is the length of the tangent to a circle of radius 5 cm drawn from an external point 8cm away from the circumference of the circle?
3. If four terms are inserted in between 1 and 31 to form an arithmetic progression ,what is the common difference

SECTION B

4. Which is the first negative term of an AP 89,84,79…?
5. Find the value of 'k' if the following equation has equal roots $(k+4)x^2+(k+1)x+1 = 0$

P.T.O

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SET II

INDIAN SCHOOL SOHAR
FORMATIVE ASSESSMENT III – 2015 -2016
X – MATHEMATICS

Date : 16/11/15	**Duration :40 minutes**	**Max. Marks : 20**

General instructions

- All questions are compulsory
- Section A comprises3 questions of 1 mark each
- Section B comprises2 questions of2 marks each
- Section C comprises3 questions of 3 mark each
- Section D comprises1 question of 4 marks

SECTION A

1. If one root of the equation $7x^2 - 50\,x - k = 0$ is reciprocal of the other, find the value of 'k'.
2. If the tangents drawn from an external to a circle are inclined at an angle of 80^o ,what is the angle subtended by the line joining the point of contact at the centre of the circle ?
3. S_n denotes the sum of n terms of an AP. If $S_5 = 65$ and $S_6 = 83$, what is the 6th term of the progression?

SECTION B

4. Which is the first negative term of an AP 106, 99, 92…?
5. Find the value of 'k ' if the following equation has equal roots $(k+1)x^2-2(k-1)x+1 = 0$

P.T.O

SECTION C

6. Find the roots of the equation $5x^2 – 6x – 2 = 0$ by the method of completing the square.
7. Prove that opposite sides of a quadrilateral circumscribing a circle subtend supplementary angles at the centre of the circle.
8. The third term of an AP is 18 and the seventh term is 30.Find the sum of 17 terms.

SECTION – D

9. A train travels a distance of 480 km at a uniform speed .If the speed had been 8 km/h less ,then it would have taken 3 hours more to cover the same distance .Find the speed of the train.

[OR]

A motor boat takes 2 hours more to cover a distance of 30 km upstream than it takes to cover the same distance downstream. If the speed of the stream is 2 km/h, find the speed of the boat in still water.

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SECTION C

6. Prove that the parallelogram circumscribing a circle is a rhombus.
7. The third term of an AP is 12 and the seventh term is 24 find the sum of 17 terms
8. Find the roots of $2x^2- 5x + 3 = 0$ by the method of completing the square.

SECTION D

9. A fast train takes 3 hours less than a slow train for a journey of 600 km .If the speed of the slow train is 10km/h less than that of the fast train, find the speed of the two trains.

[OR]

A motor boat whose speed is 18 km/h in still water takes 1 hour more to go 24 km upstream than to return downstream to the same spot. Find the speed of the stream.