

VISWABHARATI - GUDIVADA

RAPID FIRE ROUND TEST

WORK SHEET – 2

Class: X

Time: 1Hr

Subject: Mathematics

Marks: 25

Name _____ **Class/Sec:** _____ **Roll No:** _____

I. Answer the following Questions.

5 × 4 = 20

1. Prove that $(\sin A + \operatorname{Cosec} A)^2 + (\cos A + \operatorname{Sec} A)^2 = 7 + \tan^2 A + \cot^2 A$
2. Given $\cot \theta = \frac{7}{8}$, then evaluate
 - i) $\frac{(1+\sin\theta)(1-\sin\theta)}{(1+\cos\theta)(1-\cos\theta)}$
 - ii) $\frac{(1+\sin\theta)}{\cos\theta}$
3. The angles of elevation of the top of a tower from two points at a distance of 4m and 9m, find the height of the tower from the base of the tower and in the same straight line with it are complementary.
4. Two dice, one red and one yellow, are thrown at the same time. Write down all the possible outcomes, what is the probability that the sum of the two numbers appearing on the top of the dice is
 - i) 8
 - ii) 13
 - iii) less than or equal to 12?
5. Five cards – the ten, jack, queen, king and ace of diamonds, are well – shuffled with their face down wards one card is then picked up at random.
 - i) What is the probability that the card is the queen?
 - ii) If the queen is drawn and put a side, what is the probability that the second card picked up is
 - a) an ace ?
 - b) a queen ?

II. Answer the question:

5M

6. “If a line divides two sides of a triangle in the same ratio, then the line is parallel to the third side”.