



ANANDALAYA
Weekly Test 3
Class X

Subject: MATHEMATICS
Date : 03 /11 /2015

M.M: 20
Time: 1 Hour

1. What is the nature of roots of the quadratic equation $4x^2 - 12x - 90 = 0$? 1
2. Check whether $x(x + 2) + 8 = (x + 2)(x - 2)$ is a quadratic equation or not? 1
3. A kite is flying at a height of 30 m from the ground. The length of the string from the kite to the ground is 60m. Assuming that there is no slack in string, find the angle of elevation. 1
4. For what values of k, are the roots of the quadratic equation $kx^2 + 4x + 1 = 0$ equal? 1
5. Divide 16 into two parts such that twice the square of the larger part exceeds the square of the smaller part by 164. 2
6. Find the roots of the quadratic equation $2x^2 - 7x + 3 = 0$ by the method of completing the square. 2
7. If -4 is a root of the quadratic equation $x^2 + px - 4 = 0$ and the quadratic equation $x^2 + px + k = 0$ has equal roots, find the value of k. 2
8. A man standing on the deck of a ship, which is 10m above water level. He observes the angle of elevation of the top of a hill as 60° and the angle of depression of the base of the hill as 30° . Calculate the distance of the hill from the ship and the height of the hill. 3
9. A train travels a distance of 300 km at constant speed. If the speed of the train is increased by 5km/hour, the journey would have taken 2 hours less. Find the original speed of the train. 3
10. The angle of elevation of a jet plane from a point on the ground is 60° . After a flight of 15 seconds, the angle of elevation changes to 30° . If the jet plane is flying at a constant height of $1500\sqrt{3}$ m, find the speed of the jet plane in km/hr. 4