XI Trigonometry(upto comp ang) , Quadratic , Complex no.

1. Find the length of the arc of a circle of diameter 36 cm that subtends an angle 140^0 at the center.
2. Find the minimum and maximum value of $3\sin^2 A - 2\cos^2 A + 9$. 3. If $A+B = 225^0$, show that tanA+tanB+tanA.tanB =1.
4. If z = x+iy and $\text{Im}\frac{\bar{z}+2}{\bar{z}-1} = 4$ then represent the locus in Argand's plane. 5.Find the sq root of $1 - 2\sqrt{6}i$.
6. If ω is the cube root of unity show that $\frac{1}{1+2\omega} + \frac{1}{2+\omega} - \frac{1}{1+\omega} = 0$. 7. Solve: $4x^4 1 - 16x^3 + 7x^2 + 16x + 4 = 0$.
8. If α, β are the roots of the equation $x^2 - 4x+2= 0$, find the equation whose roots are $\frac{2\alpha^2}{\beta} + 1, \frac{2\beta^2}{\alpha} + 1$.
9. If one of the roots of the quadratic equation be 2i +3, find the equation with real coefficients.
10. Determine k if the roots of the equation $k(x - 1)^2 = 5x - 7$ is double of the other .