Q1: If tan A = $\sqrt{2} - 1$ , show that sinA cos A = $\frac{\sqrt{2}}{4}$

Q2: Evaluate $1 - sin^2 30^0 cos^2 45^0 + 4 tan^2 30^0 + \frac{1}{2} sin^2 90^0 - 2 cos^2 90^0 + \frac{1}{24} cos^2 0^0$

Q3: P.T \[ \frac{cos(90-\theta) secular(90-\theta) tan \theta}{cosec(90-\theta) sin(90-\theta) cot(90-\theta)} + \frac{tan(90-\theta)}{cot \theta} = 2 \]

Q4: $sec^4 \theta - sec^2 \theta = tan^4 \theta + tan^2 \theta$

Q5: $\sqrt{sec^2 \theta + cosec^2 \theta} = tan \theta + cot \theta$

Q6: Through the midpoint m of the side CD of a parallelogram ABCD , the line BM is drawn intersecting AC in L and AD produced in E . Prove that EL = 2BL.

Q7: If two triangles are equiangular , prove that the ratio of the corresponding side is same as the ratio of corresponding altitudes .

Q8: ABC is a right $\Delta$ at C . let BC = a , CA = b and AB = c , and let ‘P’ be the perpendicular from C and AB . Prove that (i) pc = ab (ii) $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$

Q9: In an equilateral $\Delta$ with side ‘a’ prove that a) Altitude = $\frac{a\sqrt{3}}{2}$ b) Area = $\frac{\sqrt{3}}{4} a^2$

Q10: A man goes 15m due west and 8m due north . How far is he from the starting point .