Y12**: EXCELLENCE LEVEL**  PRACTICE ASSESSMENT.

**ALGEBRA.**

1***. I have two square pieces of cardboard and***

***the total area is 53 cm2. The total perimeter***

***is 36 cm. Find the size of each square.***

***2. Prove that the equation x2 + (a – 2)x + (4a2 – a + 1) = 0 has no real solutions for all non zero values of a.***

***3. If one root of the equation x2 – 6kx + 10k + 12 = 0 is twice the other root, find the possible values of k.***

***4. Prove that if one root of the equation x2 – px + q = 0 is three times the other then 3p2 = 16q.***

***5. If the equation ax2 + (a + 5)x + (3a + 6) = 0 has one real solution, find the value of a.***