Sample Question for Level 5 (class 7 and 8)

1. Suppose I have 29 playing cards, and I want to know how many combinations of pairs (first two cards) a dealer can draw at the beginning?

2. Find the solution of
   x +2y + 3z = 1 ; x-y +4z = 0 ;2x +y +7z=1

3. How many two-digit positive numbers are divisible by 3 or 5?

4. If a,b,c are real numbers such that a^2 + b^2 +c^2 =1 then find out the interval within which (ab +bc + ca) belongs.

5. How many digits are in the product 4^20 *5^36?

6. If m and n are two odd positive integers with n<m, then find the largest positive integer which divides all numbers of the form m^2 – n^2?

7. In a triangle ABC, AD bisects the Angle ABC and AB = 10 cm, BC = 12 cm and CA= 15 cm and BD = 4 cm and what is the value of DC?

8. What is the area of a cyclic quadrilateral whose sides are 12cm, 14cm, 19cm, 20 cm.?

9. what is the perimeter of a triangle ABC and AD is an angle bisector and AB =12 cm and AC =16 cm , BD = 4 cm

10. If in a garden, total 576 trees are there. In this garden, the no of rows = no of columns. How many trees are there in the 1st row of the garden?