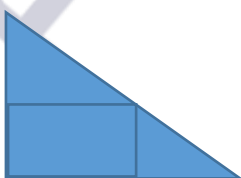**Sample Questions for Level 6 (class 8 and 9)**

1. Find the unit digit of 24^100

2. The mean of a set of five different positive integers is 15 .the median is 18. What is the maximum possible value of the largest of these five integers?

3. What is the area of a rhombus which has two diagonals of 16 cm and 12 cm?

4. In an equilateral triangle ABC , there is a point P within the triangle ABC in such a way that PA^2 = PB^2 + PC^2 , what is the value of the angle BPC?

5. How many real roots of the equation (x-1)^2 + (x-2)^2 + (x-3)^2 =0 are there?

6. A man on a cliff observes a boat , at an angle of depression 30 degree, which is sailing towards the shore to the point immediately beneath h metre. Three minutes later the angle of depression of the boat is found to b 60 degree.Assuming that the boat sails at a uniform speed, how much time it would take to reach the shore?

7.Find the x , if x^2/3 - 7*(x^1/3) +10 =0

8. A six digit number is formed by repeating a three digit number. Find Greatest common divisors of this form.

9.For a biased die, the probabilities for the different faces to turn up are given below:

Face	1	2	3	4	5	6
Probability	.1	.32	.21	.15	.05	.17

This die is tossed and you are told that either face 1 or face 2 has turned up . Find the probability that it is face 1 ?

10.

In the above picture ABC is a right triangle and a rectangle is inscribed within it. If AC is the hypotenuse and its value is 13 units. If the rectangle touches at 5 cm from the bottom. What is the ratio of the two triangles formed by the rectangle?