[15 SECOND-QUESTION]
[EASY ROUND]:

1. Find the solution set of inequality: $x(x+1)<x$

2.A circle center at the origin passes through the points (-2,3) and (3,k).Find k

3.The 4_{th} term of arithmetic sequence is 48 and 10_{th} term 68.What is the a_1 ?

4.If -1 is a root of given equation,$2x^4+2x^3=3x^2+kx+2$.What is k?

5.In a circle,3cm chord and 3cm away from the center.Find the area of the circle?

6.In ordinary deck of playing cards.How many 5 card hands of consecutive ranks in a certain suits?

7.A square is inscribed in a right triangle if the legs of a triangle has measure 6cm and 12cm long.Find the area of the square?

8.In rolling 2 dice at random.What is the probability that the sum of resulting numbers is a perfect square?

9.The sides of isosceles triangle is 5cm,5cm, and 6cm.How long is the altitude from one vertex to the opposite leg?

10.What is the sum of all even positive integers less than 1000.

11.What is the minimum value of $f(x)=2x^2-4x+5$.

[30 SECOND-QUESTION]
[AVERAGE ROUND]:

1.How many different codewords can be formed from the letters of the word DIVISION such that S and N are next to each other?

2.In a sequence 25,a,b,c, $\frac{25}{49}$ the 1_{st},3_{rd},5_{th}terms form a harmonic sequence and the last 3 terms form a geometric sequences.What is c?

3.solve fo x in $3x^4 + 4x^3=5x^2+2x$.

4.The dimensions of the wooden rectangular prism are 5,7 and 8 units. If faces are painted blue,and then the prism is cut into cubes.if two cubes are selected random,what is the probability that one has exactly one blue face and the other has exactly 2 blue faces?

5.A circle passes through the points (1,3),(2,-2) and (6,4).What is the radius?

6.A point (k,7) lies on the perpendicular bisector of the segment (-1,2) and (2,9).What is k?

[45 SECOND-QUESTION]
[DIFFICULT ROUND]:

1.The numbers 3,a,b,c,d,23 328 Form a geometric sequence.What is $\sqrt[4]{abcd}$?

2.If $23+7y-5x^2-2x^3=a+b(x+2)+c(x+2)^2+d(x+2)^3$ is an identity.What is c?

3.The lines 3y=2x+3 and 2x =3y+3 are parallel.Find the distance between these lines.

4.An arithmetic sequence (A_n) has $A_4=6$ and $A_7=4$.What is n so that $A_1+A_2+\ldots\ldots+A_n=42$?

5.The hypotenuse AC of a right triangle ABC is trisected at P and Q.If $BP^2 + BQ^2=10cm^2$,How long is AC?

6.The lengths (in cm) of the sides of a triangle are the root of the equation,$x^3+84x=16x^2+144$.Find the area of the triangle?