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**SUB : MATHEMATICS CLASS X ‘A’**

**HOLIDAY HOME WORK (OCT-2019)**

Q.1 A fruit vendor has 990 apples and 945 oranges. He packs them into baskets.Each basket contains only one of the two fruits but in equal number. Find the number of fruits to be put in each basket in order to have minimum number of baskets.

Q.2 Prove that is divisible by 2 for every positive integer n.

Q.3 Show that exactly one of the number n,n+2 or n+4 is divisible by 3..

Q.4 Prove that is an irrational number, hence show that 7+2 is also an irrational number.

Q5 If p and q are zeroes of polynomial find the value of

Q6 Find the value of k, if -1 is a zero of the polynomial p()=

Q7 Polynomial is exactly divisible by thefind the value of p and q.

Q8 If the polynomial is divided by ( the remainder comes out be x+a find k and a.

Q9 Obtain all zeroes of if two of its zeroes are and

Q10 Solve graphically the pair of linear equations : find the coordinates of the vertices of the triangular region formed by these lines and x-axis. Also calculate the area of this triangle.

Q 11. Solve for

Q12 A motor boat can travel 30 km upstream and 28 km downstream in 7 hours.It can travel 21km upstream and return in 5 hours.Find the speed of the boat in still water and the speed of the stream.

Q13 A two digit number is four times the sum of the digits.It is also equal to 3 times the product of digits. Find the number.

Q14 As observed from the top of a 100 mt high light house from the sea level.the angles of depression of two ships are 30o and 40o if one ship is exactly behind the other one the same side of the light house,find the distance between the two ships.

Q15 The angle of elevation of the top of a hill at the foot of a tower is 60o and the angle of depression from the top of tower to the foot of hill is 30o.if the tower is 50 mt high,find the height of the hill.

Q16 A train travels at a certain avera.ge speed for a distance of 63 km and then travels at a distance of 72 km at an average speed of 6 km/hr more than its original speed. It takes 3 hours to complete the total journey, what is the original average speed

Q 17 The ninth term of an AP is equal to seven times the second term and twelfth term exceeds five times the third term by 2. Find the first term and the common difference.

Q18 If the tenth term of an AP is 52 and the term is 20 more then the term find AP.

Q19 Find the sum of first seventeen terms of AP whose terms are -15 and -30 respectively.

Q20 Prove that: