QUADRATIC EQUATION

PROBLEM BASED ON QUADRATIC EQUATION

PROBLAM BASED ON QUADRATIC EQUATION

Q1. The sum of the squares of two consecutive positive integers is 545. Find the integers.

Q2. A man is five times as old as his son and the sum of the squares of their ages is 2106. Find their ages.

Q3. The sides (in cm) of a right triangle containing the right angles are 5x and 3x - 1. If the area of the Triangle is 60 cm^2. Find its perimeter.

Q4. The lengths of the sides of right triangle are $5x + 2$, 5x and 3x - 1. If $x > 0$ find the length of each sides.

Q5. A two digit number is four times the sum and three times the product of its digits, find the number

Q6. The number of a fraction is 1 less than its denominator. If 3 is added to each of the numerator and denominator, the fraction is increased by $\frac{3}{28}$. Find the fraction

Q7. An aeroplane left 30 minutes later then its scheduled time and in order to reach its destination 1500 km away in time. it has to increase its speed by 250 km/h from its usual speed. Determine its usual speed.

Q8. A motor boat whose speed is 18 km/h in still water takes 1 hours more to go 24 km upstream than to return downstream to the same spot. Find the speed of the stream.

Q9. Two water taps together can fill a tank in $9\frac{3}{8}$ hours. The tap of larger diameter takes

10 hours less that the smaller one to fill the tank separately. Find the time in which each tap separately fill the tank.

Q10. The hypotenuse of a right triangle is 25 cm. The difference between the lengths of the other two sides of the triangle is 5 cm. Find the lengths of these sides.

ANSWER KEY

1. 16, 17
2. 9 years & years
3. 40 cm
4. 17, 15, 8
5. 24
6. $\frac{3}{4}$
7. 75 km/h
8. 6 km/hr
9. Smaller tap = hr, Larger tap = 15 hr
10. 15 cm, 20 cm