

ACHIEVERS FOUNDATION

QUADRATIC EQUATIONS

WORK SHEET-2

- The speed of an ordinary train is x km per hr and that of an express train is $(x + 25)$ km per hr.
 - Find the time taken by each train to cover 300 km.
 - If the ordinary train takes 2 hrs more than the express train; calculate speed of the express train.
- If the speed of a car is increased by 10 km per hr, it takes 18 minutes less to cover a distance of 36 km. Find the speed of the car.
- If the speed of an aeroplane is reduced by 40 km/hr, it takes 20 minutes more to cover 1200 km. Find the speed of the aeroplane.
- A car covers a distance of 400 km at a certain speed. Had the speed been 12 km/h more, the time taken for the journey would have been 1 hour 40 minutes less. Find the original speed of the car.
- A girl goes to her friend's house, which is at a distance of 12 km. She covers half of the distance at a speed of x km/hr and the remaining distance at a speed of $(x + 2)$ km/hr. If she takes 2 hrs 30 minutes to cover the whole distance, find 'x'.
- The ages of two sisters are 11 years and 14 years. In how many years' time will the product of their ages be 304?
- One year ago, a man was 8 times as old as his son. Now his age is equal to the square of his son's age. Find their present ages.
- The age of the father is twice the square of the age of his son. Eight years hence, the age of the father will be 4 years more than three times the age of the son. Find their present ages.
- The perimeter of a rectangle is 104 m and its area is 640 m². Find its length and breadth.
- The diagonal of a rectangle is 60 m more than its shorter side and the larger side is 30 m more than the shorter side. Find the sides of the rectangle.
- The hypotenuse of a right-angled triangle exceeds one side by 1 cm and the other side by 18 cm; find the lengths of the sides of the triangle.
- The sides of a right-angled triangle are $(x - 1)$ cm, $3x$ cm and $(3x + 1)$ cm. Find:
 - the value of x ,
 - the lengths of its sides,
 - its area.
- The hypotenuse of a right-angled triangle is 26 cm and the sum of other two sides is 34 cm. Find the lengths of its sides.