**BOATS AND STREAM**

**Upstream/Downstream**

**To find Time,speed and distance using formula**

1. A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.

1. In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is
2. The speed of swimmer along with the flow of river is 40 km/hr and against the flow of river is 22 km/hr. What would be the speed of swimmer in still water?
3. The speed of a boat in still water in 15 km/hr and the rate of current is 3 km/hr. The distance travelled downstream in 12 minutes is:
4. A man can row 10 km/hr in still water when the river is running at 2km/hr it takes him 1 hr to row to a place and come back.How far is the place?
5. A boat running downstream covers a distance of 16 km in 2 hours while for covering the same distance upstream, it takes 4 hours. What is the speed of the boat in still water?

**Average Speed**

1. If the speed of boat in still water is 10 km/hr & the speed of stream is 3 km/hr, the boat rows to a place which is 50 km far & returns through the same path. What would be the average speed of boat during the journey?
2. There is a road besides a river. Two friends Ram & Shyam started their journey from place P, moved to the garden located at another place Q & then returned to place P. Ram moves by swimming at a speed of 15 km/hr while Shyam sails on a boat at a speed of about 12 km/hr. If the flow of water current is at the speed of 6 km/hr, what will be the average speed of boat sailor?

**Solving Equations**

1. Consider a boat which moves at the speed of 6 km/hr. If the water runs at the speed of about 4 km/hr, then the boat requires 3 hours to reach a certain place and return. Calculate the distance between that place & boat's initial position.
2. A motor boat whose speed is 15 km/hr in still water goes 30km downstream and comes back in a total of 4 hours 30 minutes. Determine the speed of the stream.
3. A man can row 5 km/h in still water.If the speed of the current is 1 km/hr, it takes 3 h more in upstream than in the downstream for the same distance.The distance is
4. A boat takes 28 hours for travelling downstream from point A to point B and coming back to point C midway between A and B. If the velocity of the stream is 6km/hr and the speed of the boat in still water is 9 km/hr, what is the distance between A and B?
5. A boy can row a certain distance downstream in 8 hours and return the same distance in 12 hours. If the stream flows at the rate of 4km/hrs, what is the speed of the boy in still water?

**Twice /Thrice**

1. A man takes twice as long to row a distance against the stream as to row the same distance in favour of the stream. The ratio of the speed of the boat (in still water) and the stream is:
2. Sruthi can swim in still water at the rate of 6km per hour. After swimming in a stream, she realized that she takes twice the time to go upstream as she takes to go downstream. What is speed of the current?