# BOAT AND STREAM

A Boat's speed with the current is 15 kmph and the speed of the current is 2.5 kmph. The Boat's speed against the current is:

(a) 8.5 kmph
(b) 9 kmph
(c) 10 kmph
(d)12.5 kmph
(e) 14 kmph

Down = 15

Current = 2.5

Boat + current = 15

current = 2.5

Boat = 12.5

Up = Boat - current

= 12.5 - 2.5

Up = 10 kmph

The speed of motorboat in still water is 25 km/hr. It takes 6 hours to go 120 km upstream. Find the time taken by the motorboat to return the same distance.

A. 3.5 hours
B. 2.5 hours
C. 4 hours
D. 4.5 hours
E. None of these

Boat = 25

Stream = 5 kmph

UP

D = 120 km

T = 6 Hrs

$S = \frac{120}{6} = 20$ kmph

Boat − stream = 20

25 − stream = 20

Down

Speed = 25 + 5 = 30 kmph

Dist = 120 km

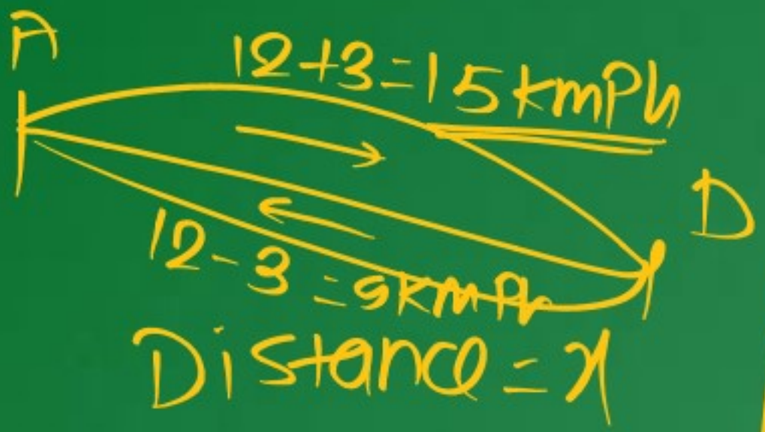
$T = \frac{120}{30} = 4$ Hrs

A man can row at 12 kmph in still water. If the velocity of current is 3 kmph and it takes him 16 hour to row to a place and come back, how far is the place?

(a) 18 km
(b) 12 km
(c) 80 km
(d) 90 km
(e) 60 km

Man = 12 kmph

Current = 3 kmph




$$\left[\frac{x}{15}\right]_{\times 3} + \left[\frac{x}{9}\right]_{\times 5} = 16$$

$$\frac{8x}{45} = 16$$

$$x = 90$$

Ratio between speed of boat in still water to speed of stream is 5 : 2. If 224 km is travelled by downstream in 4 hours then find the difference between speed of boat in still water and speed of stream?

A. 24 km/hr
B. 22 km/hr
C. 28 km/hr
D. 26 km/hr
E. 30 km/hr

Down

$D = 224$ km

$T = 4$

$S = \frac{224}{4} = 56$ kmph

$\frac{\text{Boat}}{\text{Stream}} = \frac{5}{2} = \frac{5x}{2x}$

$7x \xrightarrow{\times 8} 56$

$(5x - 2x) = 3x \xrightarrow{\times 8} 24$

A man can row 10 km/hr in still water. If the river is running at 4 km/hr, it takes 8 hours more in upstream than to go downstream for the same distance. How far is the place?

(a) 88 km
(b) 84 km
(c) 92 km
(d) 90 km
(e) 94 km

Man = 10  River = 4

Down = 14 kmph

Up = 6 kmph

Distance = x

$$\left[\frac{x}{6}\right]_{\times 7} - \left[\frac{x}{14}\right]_{\times 3} = 8$$

$$\frac{4x}{42} = 8$$

$$x = 84 \text{ km}$$

A boat running downstream covers a distance of 24 km in 3 hours while for covering the same distance upstream, it takes 4 hours. What is the speed of the boat in still water?

(a) 4 kmph
(b) 7 kmph
(c) 8 kmph
(d)12 kmph
(e)10 kmph

**DOWN**

$D = 24$

$T = 3$

$S = 8$ kmph

**UP**

$D = 24$

$T = 4$

$S = 6$ kmph

$$\text{Boat} = \frac{\text{Down} + \text{UP}}{2} = \frac{8+6}{2} = 7 \text{ kmph}$$

Majnu can row a certain distance upstream in 18 hours and downstream the same distance in 12 hours. If the stream flows at the rate of 6 kmph, then find the speed of Majnu in still water.

(a) 30 kmph
(b) 35 kmph
(c) 28 kmph
(d) 25 kmph
(e) 22 kmph

Boat = x
Stream = 6

Distance = constant

$S_1 \times T_1 = S_2 \times T_2$

$(x+6) \times 12 = (x-6) \times 18$

$12x + 72 = 18x - 108$

$6x = 180$

$x = 30$ kmph

$\frac{S_1}{S_2} = \frac{T_2}{T_1}$

$\frac{x+6}{x-6} = \frac{18}{12}$

A boat goes 204 km upstream and 266 km downstream in 13 hrs, when the speed of stream is 2 km/h. What will be the distance (in km) covered by boat going downstream for 8 hrs when the speed of stream is 3 km/h?

A. 340

B. 336

C. 312

D. 296

E. None of these

A boat takes 9 hr to travel a distance upstream and takes 3 hr to travel the same distance downstream. If the speed of the boat in still water is 4 kmph, then what is the velocity of the stream?

(a) 4 kmph
(b) 3 kmph
(c) 6 kmph
(d) 2 kmph
(e) 8 kmph

The ratio of the speed of a boat in still water to the speed of stream is 7 : 3. Aman goes 40km upstream in 2 hrs. How much time will he take to go 70 km downstream and come back same distance upstream?

A. 4 hrs 45 min.

B. 4 hrs. 55 min.

C. 4 hrs. 54 min.

D. 4 hrs. 40 min.

E. None of these