EXPERIMENT : No.

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27. Let the speed of boat be x km/hr and speed of stream be y km/hr

$\therefore$ By using the formula, $\text{Time} = \frac{\text{Distance}}{\text{Speed}}$

we get,

$$\frac{300}{x+y} = 5$$

[Distance = 300 km, downstream speed = $(x+y)$ km/hr]

$$\therefore 300 = 5(x+y)$$

$$\therefore 300 = 5x + 5y \quad \text{——— (I)}$$

and according to 2nd condition,

Distance = 150 km,
upstream speed = $(x-y)$ km/hr

$$\therefore \frac{150}{x-y} = 5$$

$$\therefore 150 = 5x - 5y \quad \text{——— (II)}$$

Adding (I) and (II) we get,

$$450 = 10x$$

Teacher's Sign. :

$$\frac{450}{10} = x$$

$\therefore x = 45$ km/hr

Substituting $x = 45$ in (I),

$$300 = 5 \times 45 + 5y$$

$$300 = 225 + 5y$$

$$\therefore 300 - 225 = 5y$$

$$\therefore 75 = 5y$$

$$\therefore \frac{75}{5} = y$$

$$\therefore 15 = y$$

i.e

$$\boxed{y = 15 \text{ km/hr}}$$

$\therefore$ Speed of boat = 45 km/hr
and
Speed of stream = 15 km/hr.