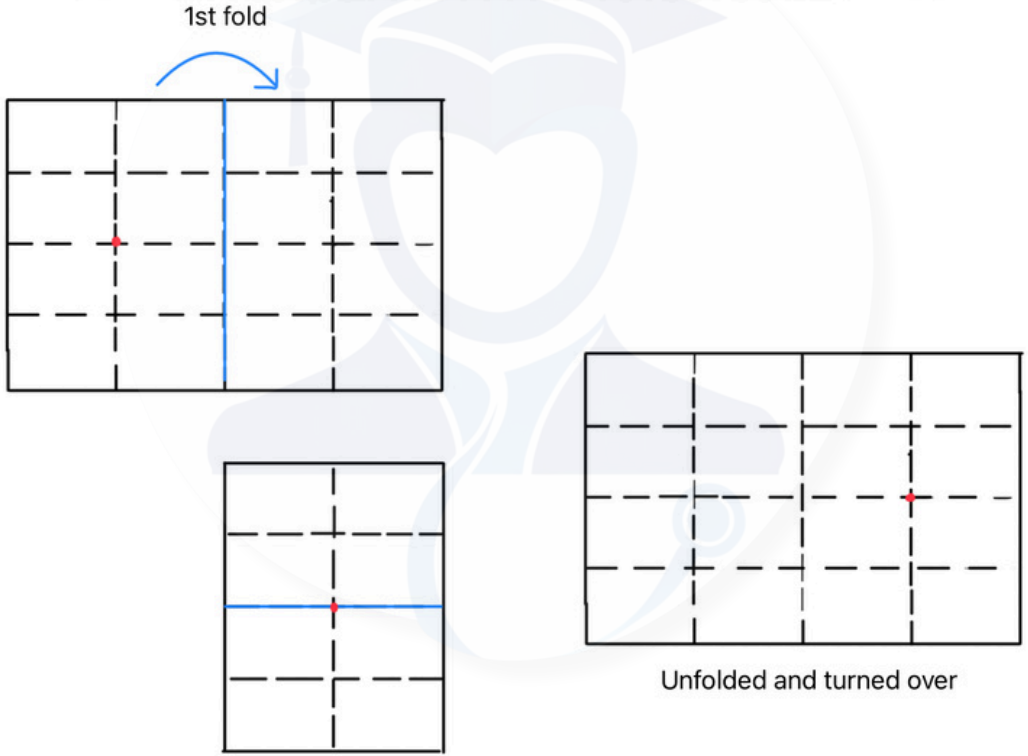
Question 3, 2020



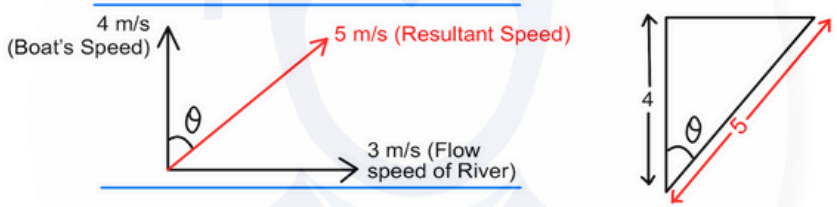
Locomotive

Question 60, 2020

It's given that the boat's speed in still water (relative to water) is $4\ m/s$ and the flow speed of the river is $3\ m/s$ (parallel to the banks).

So, the resultant velocity of the boat is the vector sum of these two velocities:

$$v_{resultant} = \sqrt{4^2 + 3^2} = \sqrt{16 + 9} = \sqrt{25} = 5\ m/s$$



Now, the angle is measured from the line perpendicular to the bank (90° line). The options are given in terms of $\cos^{-1}$.

$$\cos\cos\theta = \frac{4}{5}$$

$$\theta = \left(\frac{4}{5}\right)$$

the correct answer is (A).

Locomotive