Given: The boat speed is $v_{bw} = 10 \text{ m/s}$ relative to the water. Water flow is $v_{we} = 5 \text{ m/s}$ relative to the Earth.

Find the angle $\theta$ such that the boat crosses the river at a right angle to the bank.

A) $\theta = 30^\circ$
B) $\theta = 45^\circ$
C) $\theta = 60^\circ$

$$\sin \theta = \frac{v_{we}}{v_{bw}} = \frac{5}{10} = 0.5 \ , \theta = 30^\circ .$$

Answer A.

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