

3. The velocities are at right angles we use the tail-to-toe method of vector addition considered in Appendix C on page 445 in the text. The velocities are at right angles to each other, so we may calculate the velocity of the swimmer with respect to the bank by using the Pythagorean rule.

$$v_{sb} = \sqrt{2^2 + 5^2} \text{ m / s}$$

$$v_{sb} = 5.39 \text{ m / s}$$

Note that the swimmer will reach the far bank at some distance downstream, not at a point directly across from his starting point.