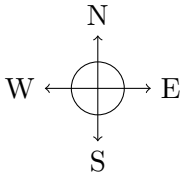
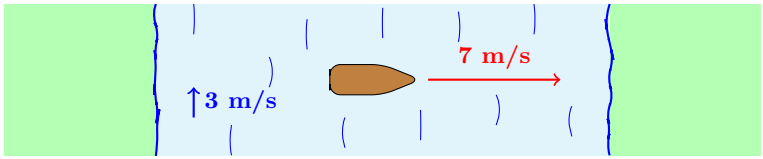
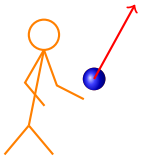
Ex #1 You hike 20 meters east and then 40 meters north. What is your displacement (magnitude and direction)?



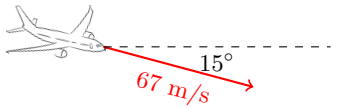
Ex #2 You row east across a river at a speed of 7 m/s. The river flows north at a speed of 3 m/s. From the perspective of someone standing on the shore, what is your velocity (magnitude and direction)?



Ex #3 A ball is thrown with an initial resultant velocity of 12.5 m/s at angle 53° above horizontal. Calculate the x- and y- components of the ball's initial velocity.



Ex #4 An airplane comes in for a landing at a speed of 67 m/s. Its angle is 15 degrees below horizontal. Calculate the x- and y- components of the airplane's velocity.



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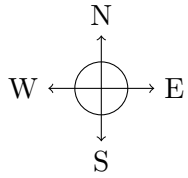

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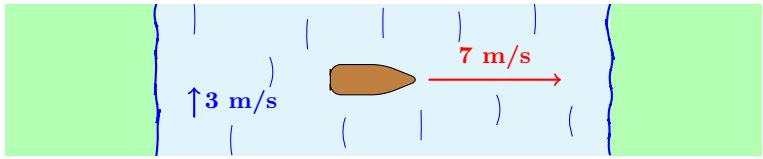

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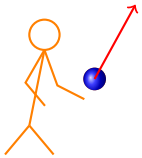

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