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# Vectors Practice

1. Sandy Squirrel travels 18 m east and 41 m north to get to her secret stash of Emerald Nuts. Chester Chipmunk decides to take a short cut and travel in a straight line to the location of the (not so) secret stash. How far did he travel and at what angle?

2. An airplane is taking off at a  $57^\circ$  angle with a velocity of 45 m/s. How fast is it traveling across the ground, as well as into the air?

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3. An airplane is flying at 80 km/hr N, and experiences a crosswind of 20 km/hr E. What is magnitude and direction of the resultant velocity of the plane?

4. A javelin is flying toward the ground at a speed of 30 m/s at an angle of 55 degrees below the horizon. Find the  $x$ - and  $y$ - components of the javelin's velocity.