

Name:

Date:

Period:

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° angle with a velocity of 45 m/s. How fast is it traveling across the ground, as well as into the air?
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?

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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.

Review. Try some of these problems to remind yourself how to use the kinematic equations.

5. You drop a puppy off the side of a cliff. How much time does it take to fall 3.8 meters?

6. You drop kick a soccer ball straight up in the air with a velocity of 13.1 m/s.

(a) What maximum height does the soccer ball reach?

(b) How much time is the soccer ball in the air?