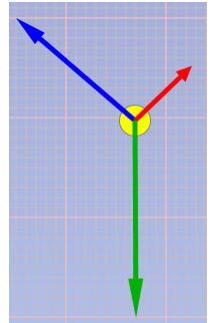


Quiz #1: Representing Motion

Problem 1 (2 points)

The sum of the following three vectors will be a vector pointing in which quadrant?

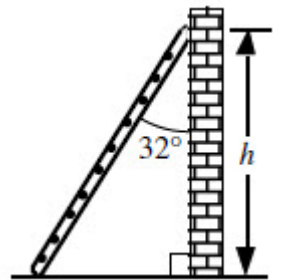
- a) I
- b) II
- c) III
- d) IV



Problem 2 (2 points)

A 2.5-m ladder leans against a wall and makes an angle with the wall of 32° as shown in the figure. What is the height h above the floor where the ladder makes contact with the wall?

- a) 2.1 m
- b) 1.3 m
- c) 2.4 m
- d) 1.6 m
- e) 1.9 m



Problem 3 (2 points)

Draw a motion diagram, using the particle model, showing the velocity vectors for the following situation:

A child is sledding on a smooth, level patch of snow. She encounters a rocky patch and slows to a stop.

Problem 4 (4 points)

Foraging bees often move in straight lines away from and towards their hives. Suppose a bee starts at its hive and flies 450.0 m due east, then 900.0 m due west, then 300.0 m east. If the entire trip takes 50.0 s, what is the bee's **(a)** average speed and **(b)** average velocity for the entire trip?