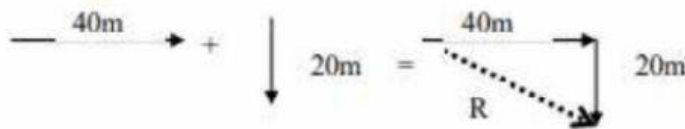


Vector Addition using the Pythagorean Theorem

Directions: Use the Pythagorean Theorem to find the resultant magnitude only for the addition of the following vectors. Show the vector addition, the resultant, and the work using the Pythagorean Theorem.

Example: You walk 40 meters east, then 20 meters south.



$a^2 + b^2 = c^2$ becomes:

$$40^2 + 20^2 = R^2$$

$$1600 + 400 = R^2$$

$$R = \sqrt{2000} = 44.7\text{m}$$

1. You move at 3 m/s directly north, then at 5 m/s directly west.
2. You drive 100 kilometers south, then 50 kilometers west.
3. You pull down with a force of 60 pounds, then to the right with a pull force of 20 pounds.
4. You accelerate in your rocket both 10 m/s^2 up and 7 m/s^2 horizontally.