

## Answer on Question #44434, Physics, Mechanics | Kinematics | Dynamics

### Question:

a projectile is fired at an angle of 55 degrees above the horizontal with an initial speed of 35m/s. what is the magnitude of the horizontal component of the projectile's displacement at the end of 2s?

### Answer:

The horizontal component of the projectile's velocity equals:

$$v_x = v \cos 55^\circ$$

where  $v$  is speed of projectile.

Therefore, magnitude of the horizontal component of the projectile's displacement will be equals:

$$s_x = v_x t = 35 \cdot \cos 55^\circ \cdot 2 \left[ \frac{m}{s} \right] \cong 40 \text{ m}$$

Answer: 40 m