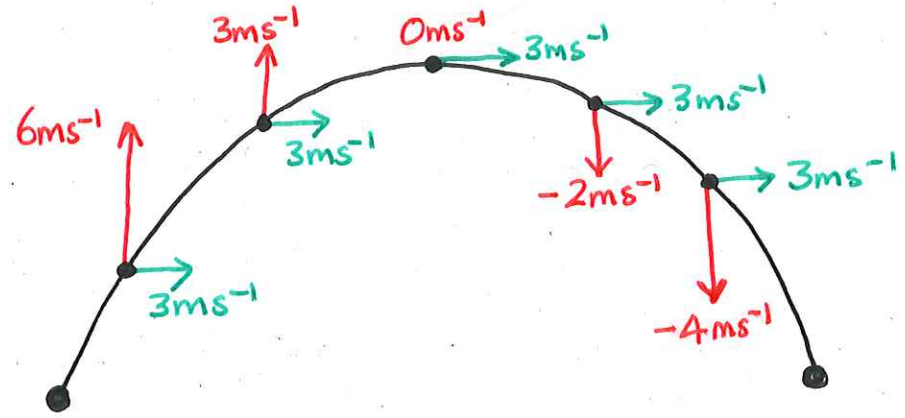
YEAR 2 APPLIED — PROJECTILES — Chapter 6



Horizontal speed remains the same.

Vertical speed varies with time.

VERTICAL CALCULATIONS

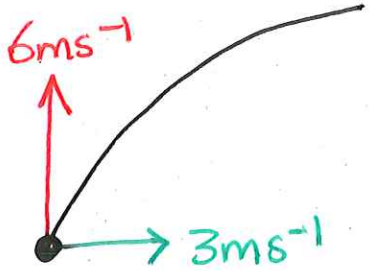
S = vertical distance
U = vertical speed
V = vertical speed
A = -9.8
T = TIME

HORIZONTAL CALCULATIONS

$$\text{Horizontal Speed} = \frac{\text{horizontal Distance}}{\text{Time}}$$

NOTE: The only valve that can be transfered between vertical and horizontal calculations is TIME.

VECTORS

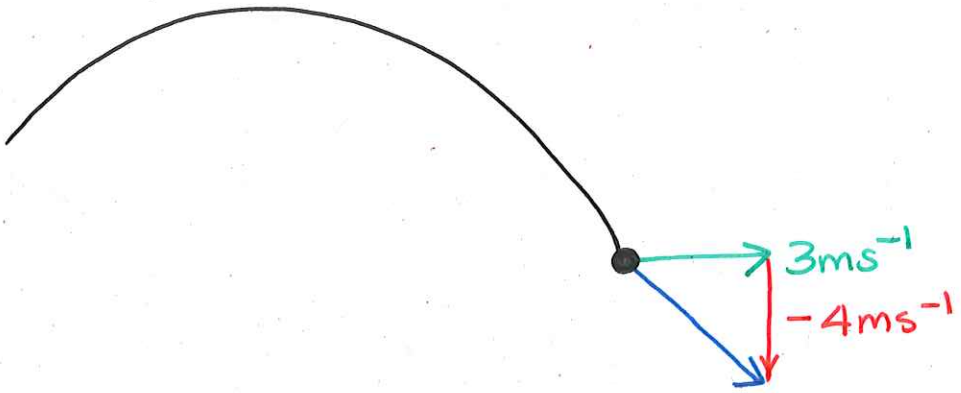


$u = 3i + 6j$

Vertical speed = j component

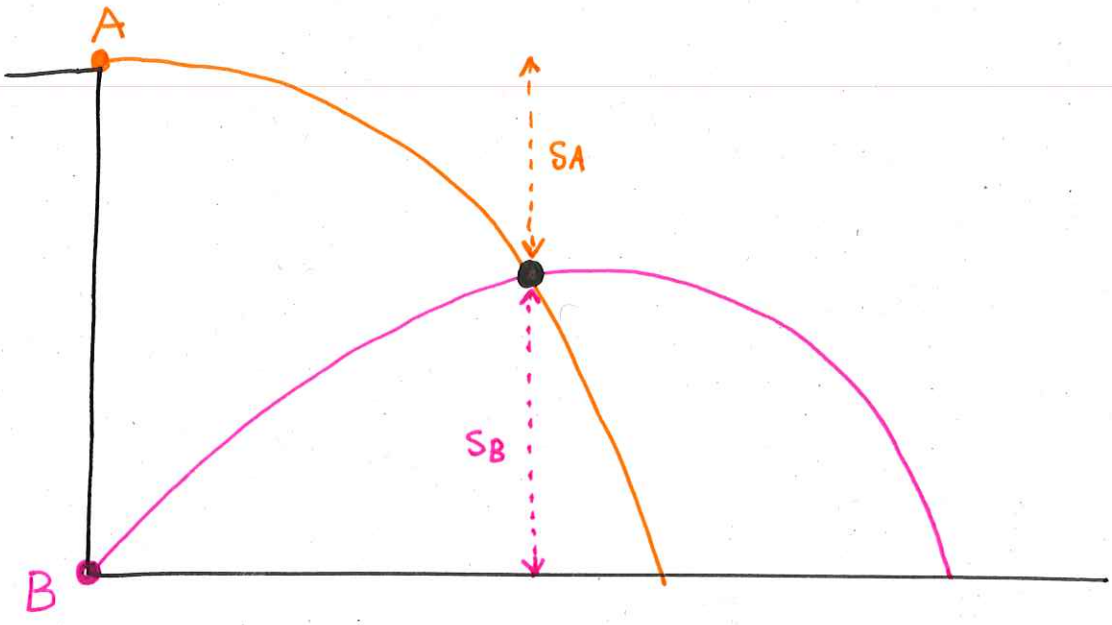
Horizontal speed = i component

- Finding the speed



$$\text{Speed} = \sqrt{3^2 + (-4)^2} = 5\text{ms}^{-1}$$

- Two projectiles colliding



$$\text{Distance BA} = S_A + S_B$$