

**Answer on Question #73433-Physics-Other**

A rugby player passes the ball 6.2 meters across the field, where the ball is caught at the same height as it left his hand. At what angle, in degrees above the horizontal, was the ball thrown if it's initial speed was 12 m/s, assuming that the smaller of the two possible angles used?

**Solution**

The formula for the range of projectile:

$$R = \frac{v^2}{g} \sin 2\theta$$

$$\sin 2\theta = \frac{Rg}{v^2}$$

$$\theta = \frac{1}{2} \sin^{-1} \frac{Rg}{v^2}$$

$$\theta = \frac{1}{2} \sin^{-1} \frac{(6.2)(9.8)}{12^2} = 12.5^\circ.$$

**Answer: 12.5°.**

Answer provided by <https://www.AssignmentExpert.com>