The boy on the tower throws a ball 20 meters downrange as shown.

What is his pitching speed?
The boy on the tower throws a ball 20 meters downrange as shown.

What is his pitching speed?

Solution: 20 m/s
Use the equation for speed as a "guide to thinking."

\[ v = \frac{d}{t} \]

\( d \) is 20 m; but we don't know \( t \)... the time the ball takes to go 20 meters. But while the ball moves horizontally 20 meters, it falls a vertical distance of 5 meters, which takes 1 second... so \( t = 1 \text{ s} \).

\[ v = \frac{d}{t} = \frac{20 \text{ m}}{1 \text{ s}} = 20 \text{ m/s} \]