a person throws a ball up into the air at an initial speed of 22 m/s. what is the balls velocity 4.1 seconds after it is thrown

Solution:

$V_1 = 22\frac{m}{s} - \text{initial velocity}$

$V_2 - \text{velocity } 4.1 \text{ seconds after it is thrown}$

The rate equation for the ball:

$$y: V_2 = V_1 - gt = 22\frac{m}{s} - 9.8\frac{m}{s^2} \cdot 4.1s = -18.8\frac{m}{s}$$

A minus sign shows that the speed has changed its direction, and now it is directed vertically downward.

Answer: the balls velocity 4.1 seconds after it is thrown is $18.8\frac{m}{s}$ and it is directed vertically downward (opposite to initial velocity).