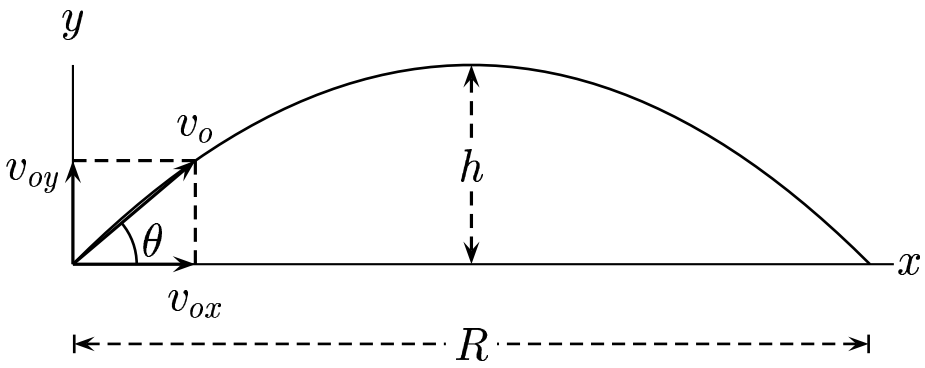
Given: $v_{0x} = 10$ m/s , $v_{0y} = 20$ m/s , and $g = 10$ m/s$^2$ .




Find $R$ .

A) $R = 2\,\dfrac{v_0^2}{\mathrm{g}} = 2\dfrac{10^2 + 20^2}{10} = 100$ m .

B) $R = \dfrac{v_{0x}\; v_{0y}}{\mathrm{g}} = \dfrac{10 \times 20}{10} = 20$ m .

C) $R = 2\, v_{0x}\, \dfrac{v_{0y}}{\mathrm{g}} = 2 \times 10 \times \dfrac{20}{10}$ m $= 40$ m .

D) $R = \dfrac{1}{2}\, v_{0x}\, \dfrac{v_{0y}}{\mathrm{g}} = 10 \times \dfrac{20}{2 \times 10}$ m $= 10$ m .

$$R = v_{0x}\,(2\ t_{rise}) = 2\,v_{0x}\,\frac{v_{0y}}{\mathrm{g}}\ .$$

Answer **C**.

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