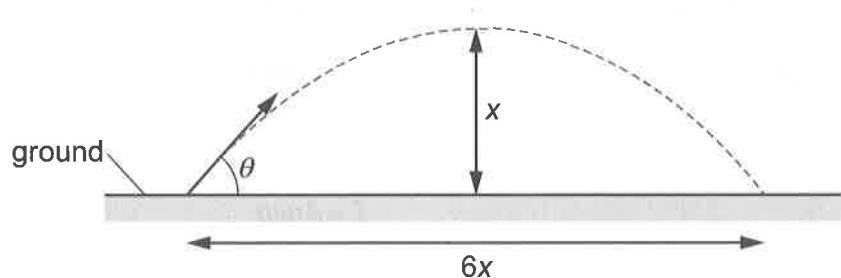


- 3 An object is launched at angle  $\theta$  above horizontal ground.

The object reaches maximum height  $x$  and travels total horizontal distance  $6x$ , as shown.



Air resistance is negligible.

What is the value of  $\tan \theta$ ?

A  $\frac{1}{3}$

B  $\frac{2}{3}$

C  $\frac{3}{2}$

D 3

- 4 A cube of ice of density  $0.92 \text{ g cm}^{-3}$  and sides of length  $2.0 \text{ cm}$  floats in water of density  $1.0 \text{ g cm}^{-3}$