

## Speed of sound

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**Solution:** a. The height would be  $h = \frac{g}{2}t^2 = 78.48$  m.

b. We know  $h = \frac{g}{2}t_{cai}^2 = c_{som}(t - t_{cai})$ . Hence,

$$t_{fall} = -\frac{c_{sound}}{g} \pm \frac{c_{sound}}{g} \sqrt{1 + \frac{2gt}{c_{sound}}} = 3.79 \text{ s} ,$$

and  $h = 70.55$  m.