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**Description:** A rocket is launched straight up with constant acceleration. Four seconds after liftoff, a bolt falls off the side of the rocket. The bolt hits the ground  $t$  later.  
(a) What was the rocket's acceleration?

[Constants](#) | [Periodic Table](#)

A rocket is launched straight up with constant acceleration. Four seconds after liftoff, a bolt falls off the side of the rocket. The bolt hits the ground 6.70 s later.

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### Part A

What was the rocket's acceleration?

**Express your answer with the appropriate units.**

ANSWER:

$$\frac{\frac{1}{2} \cdot 9.8t^2}{8 + 4t} = 6.32 \frac{\text{m}}{\text{s}^2}$$