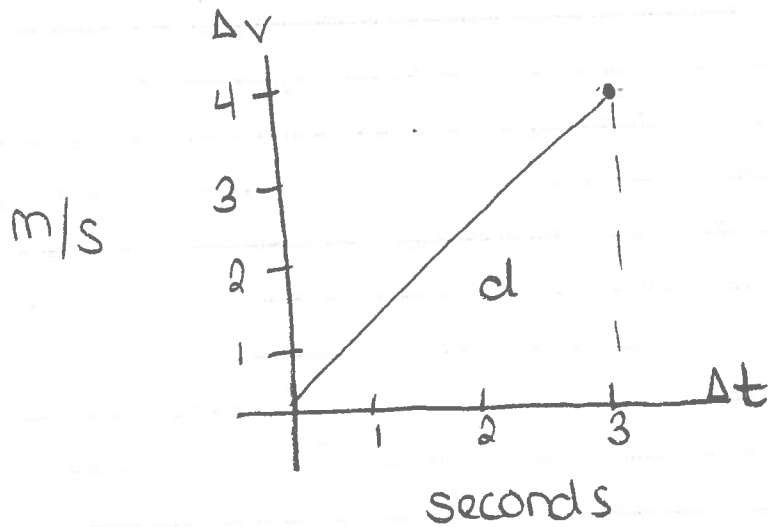


Q2 - HW - Motion simple arithmetic (1)

Mr. Smith starts from rest and accelerates to 4 m/s in 3 seconds. How far did he travel?



$$a = \frac{\Delta v}{\Delta t}$$

$$a = \frac{4 \text{ m/s}}{3 \text{ sec}}$$

$$a = 1.33 \text{ m/s}^2$$

$$d = \frac{1}{2} a t^2$$

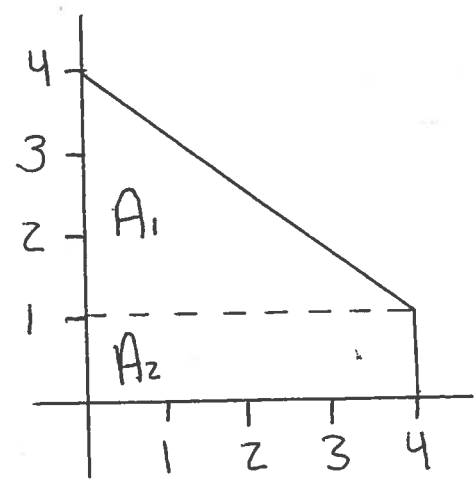
$$d = \frac{1}{2} (1.33) (3 \text{ sec})^2$$

$$d = 6.0 \text{ meters}$$

The answer is 6 meters

I release this to the public domain!

Mr. Smith is driving at a speed of 4 m/s, when he slows down to a speed of 1 m/s. The deceleration was uniform, and was accomplished in exactly 4 seconds. How far did he travel?



$$A_1 = \frac{1}{2}(B \cdot h) = \frac{1}{2}(3 \cdot 4) = 6 \text{ m}$$

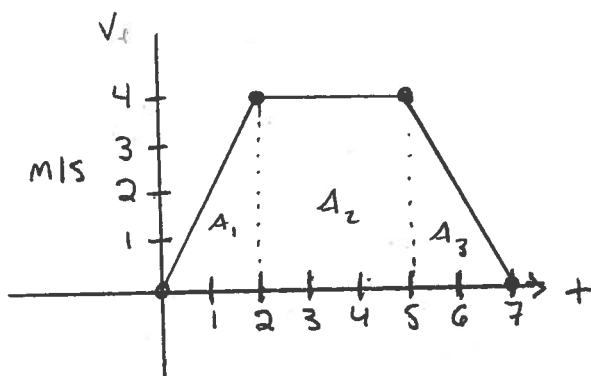
$$A_2 = (B \cdot h) = (4 \cdot 1) = 4 \text{ m}$$

$$A_1 + A_2 = 6 + 4 = 10 \text{ m}$$

The final answer is 10 meters

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domain

Mr. Smith starts at rest and accelerates to 4 m/s in 2 seconds, travels at this speed for 3 seconds and decelerates to rest in 2 seconds.



$$A_1 = \frac{1}{2}(b \cdot h) = \frac{1}{2}(2 \cdot 4) = 4$$

$$A_2 = (b \cdot h) = 3 \cdot 4 = 12$$

$$A_3 = \frac{1}{2}(b \cdot h) = \frac{1}{2}(2 \cdot 4) = 4$$

$$4 + 12 + 4 = 20$$

THE ANSWER IS 20 METERS