

1° Honors Physics - Kinematics quiz 3 09-23-02

A fan cart is going forward at 1.85 m/s. The fan turns on and blows air forward. If it causes an acceleration of  $-0.425 \text{ m/s}^2$ , what is the final velocity after it moves 3.00 meters? (A diagram will help.)

$$V_f = \underline{\hspace{1cm}} \frac{\text{m}}{\text{s}}$$

$$V_f^2 = V_i^2 + 2a\Delta x$$

$$V_i = 1.85 \frac{\text{m}}{\text{s}}$$

$$V_f^2 = (1.85 \frac{\text{m}}{\text{s}})^2 + 2(-0.425 \frac{\text{m}}{\text{s}^2})(3.00 \text{ m})$$

$$a = -0.425 \frac{\text{m}}{\text{s}^2}$$

$$\boxed{V_f = 0.934 \frac{\text{m}}{\text{s}}}$$

$$\Delta x = 3.00 \text{ m}$$



3° Honors Physics - Kinematics quiz 3 09-23-02

A fan cart is going forward at 2.35 m/s. The fan turns on and blows air forward. If it causes an acceleration of  $-0.325 \text{ m/s}^2$ , what is the final velocity after it moves 2.50 meters? (A diagram will help.)

$$V_f = \underline{\hspace{1cm}} \frac{\text{m}}{\text{s}}$$

$$V_f^2 = V_i^2 + 2a\Delta x$$

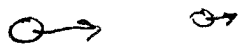
$$V_i = 2.35 \frac{\text{m}}{\text{s}}$$

$$V_f^2 = (2.35 \frac{\text{m}}{\text{s}})^2 + 2(-0.325 \frac{\text{m}}{\text{s}^2})(2.50 \text{ m})$$

$$a = -0.325 \frac{\text{m}}{\text{s}^2}$$

$$\boxed{V_f = 1.97 \frac{\text{m}}{\text{s}}}$$

$$\Delta x = 2.50 \text{ m}$$



8° Honors Physics - Kinematics quiz 3 09-23-02

A fan cart is going forward at 2.16 m/s. The fan turns on and blows air forward. If it causes an acceleration of  $-0.161 \text{ m/s}^2$ , what is the final velocity after it moves 1.24 meters? (A diagram will help.)

$$V_f = \underline{\hspace{1cm}} \frac{\text{m}}{\text{s}}$$

$$V_f^2 = V_i^2 + 2a\Delta x$$

$$V_i = 2.16 \frac{\text{m}}{\text{s}}$$

$$V_f^2 = (2.16 \frac{\text{m}}{\text{s}})^2 + 2(-0.161 \frac{\text{m}}{\text{s}^2})(1.24 \text{ m})$$

$$a = -0.161 \frac{\text{m}}{\text{s}^2}$$

$$\boxed{V_f = 2.07 \frac{\text{m}}{\text{s}}}$$

$$\Delta x = 1.24 \text{ m}$$

