

Wednesday April 27, 2011

check HW pg 389 #1,3-5, 7-9 check answers
rearrangements of the acceleration formula
practice questions

Warm-Up

1. If your acceleration was 5m/s^2 . What will your speed be after 3 seconds?

$$15\text{m/s}$$

2. A ball with a velocity of 8 m/s moves for 40 seconds. Find its acceleration.

$$a = \frac{v}{t} = \frac{8\text{m/s}}{40\text{s}} = 0.2\text{m/s}^2$$

3. If a car increases its speed from 25km/h to 50km/h in 6 s, what was the cars acceleration?

$$a = \frac{v_2 - v_1}{t} = \frac{50\text{km/h} - 25\text{km/h}}{6\text{s}} = \frac{25\text{km/h}}{6\text{s}} = 4.17\text{km/h/s}$$

Answers pg 389 #1-5, 7-9

Rearrangements of the acceleration formula:

$$v = (a)(t)$$

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

$$v_2 = v_1 + (a)(t)$$

$$v_1 = v_2 - (a)(t)$$

Sample Problem:

A skateboarder rolls down a hill and changes his speed from rest to 1.9m/s. If the acceleration was 0.40m/s², for how long was the skateboarder on the hill?

$$v = 1.9\text{m/s}$$

$$a = 0.40\text{m/s}^2$$

$$t = \frac{v}{a} = \frac{1.9\text{m/s}}{0.40\text{m/s}^2} = 4.8\text{s}$$

Sample Problem:

A bus with an initial speed of 12m/s accelerated at 0.62 m/s² for 15s.
What is the final speed of the bus?

$$v_1 = 12\text{m/s}$$

$$a = 0.62\text{m/s}^2$$

$$t = 15\text{s}$$

$$v_2 = ?$$

$$v_2 = v_1 + (a)(t)$$

$$v_2 = 12\text{m/s} + (0.62\text{m/s}^2)(15\text{s})$$

$$v_2 = 12\text{m/s} + 9.3\text{m/s}$$

$$v_2 = 21 \text{ m/s}$$

Complete Questions pg 389 #10-14

Attachments

answers pg 388 #1,3-5,7-9.notebook

answers pg 388 #1-5,7-9.notebook