

## Answer on Question #56716 – Math – Calculus

### Question

1. Air pressure may be represented as a function of height above the surface of earth as shown below:

$$p(h) = p_0 e^{-0,00012h} .$$

In this function,  $p_0$  is air pressure at sea level and  $h$  is measured in meters. Which of the following equations will find the height at which air pressure is 75% of the air pressure at sea level?

A:  $0,75p_0 = p_0 e^{-0,00012h}$

B:  $p_0 = 0,75p_0 e^{-0,00012h}$

C:  $h = 0,75e^{-0,00012}$

D:  $0,75 = h e^{-0,00012}$

**Answer:** A:  $0,75p_0 = p_0 e^{-0,00012h}$

### Question

2. If you put \$ 2,000 in a savings account that pays 6% interest compounded continuously, how much money will you have in your account in 4 years? Assume you make no additional deposits or withdraws.

A: \$2,983.65

B: \$2,542.50

C: \$8,326.49

D: \$3,168.15

### Solution

Using continuous compounding we have

$$Sum = \$2000 \cdot e^{0,06 \cdot 4} = \$2,542.50$$

**Answer:** B: \$2,542.50.