

Answer on Question #51036, Physics, Other

Question:

A bubble originating at the bottom of a lake rises to the surface within 10.0 seconds with an acceleration of 10.0 meters/second². What is the depth of the lake?

Answer:

The depth of the lake equals:

$$d = \frac{at^2}{2}$$

where a is acceleration, t is time.

$$d = \frac{at^2}{2} = \frac{10 \frac{m}{s^2} 10^2 s^2}{2} = 1000 m = 1 km$$

Answer: 1 km

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