

College Algebra, Section 5.2, #48  
Logarithmic Functions; Properties of Logarithms

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**Doubling Time** If \$5400 is invested in an account earning 7% annual interest, compounded continuously, then the number of years that it takes for the amount to grow to \$10,800 is  $n = \frac{\ln 2}{0.07}$ . Find the number of years.<sup>1</sup>

This problem is asking us to solve for  $n$  in the equation  $n = \frac{\ln 2}{0.07}$ . All the other given information has already been incorporated into this equation.

$$\begin{aligned} n &= \frac{\ln 2}{0.07} \\ &= 9.9021 \end{aligned}$$

It will take  $\sim 9.9$  years for this \$5400 investment to grow to \$10,800.

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<sup>1</sup>Harshbarger/Yocco, *College Algebra In Context*, 5e, p. 341, #48.