

Solution 1.37

(a) At a simple interest rate of 12% per year, determine how long it will take \$5000 to increase to twice as much. (b) Compare the time it will take to double if the rate is 20% per year simple interest.

Solution:

$$\begin{aligned}\text{(a)} \quad & F = P + Pni \\ & 10,000 = 5000 + 5000(n)(0.12) \\ & 5000 = 600n \\ & n = 8.33 \text{ years}\end{aligned}$$

$$\begin{aligned}\text{(b)} \quad & 10,000 = 5000 + 5000(n)(0.20) \\ & n = 5 \text{ years}\end{aligned}$$