

You are going to invest \$25,000, part at 14% and part at 16%. What is the most that can be invested at 14% in order to make at least \$3,600 interest per year?

Solution:

x - the maximum amount that can be invested at 14 percent.

Equation for income in a year:

$$\begin{aligned} \text{income}_{14\%} + \text{income}_{16\%} &= \text{total income} \\ x \cdot 0.14 + (25000 - x) \cdot 0.16 &= 3600 \\ 400 - 0.02x &= 0 \\ x &= 20000 \end{aligned}$$

Answer: the maximum amount that can be invested at 14 percent is \$20,000.