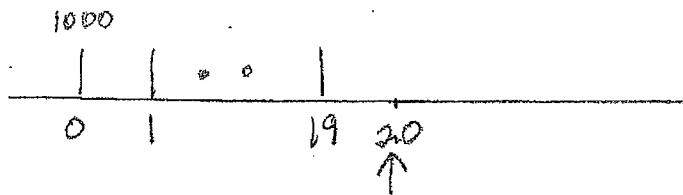


H.W. 2 - Solutions

1.



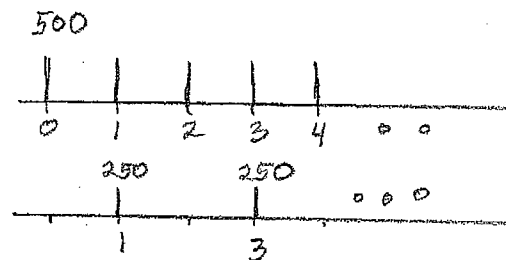
$$32,783.1368 = 1000 \ddot{S}_{\overline{20}|i}$$

$$\ddot{S}_{\overline{20}|i} = 32.7831368$$

$$\underline{i = .045 \text{ or } 4.5\% \text{ via financial calculator}}$$

2.

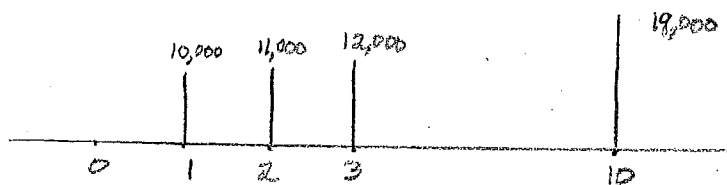
plus



$$\text{Ans} = 500 \ddot{a}_{\overline{5}|.04} + 250 \left(\frac{1}{1.04} \right) \ddot{a}_{\overline{3}|.0816} \quad (1.04)^2 = 1.0816$$

$$= 500 \frac{(1.04)}{(1.04)} + \frac{250}{1.04} \left(\frac{1.0816}{.0816} \right) = \underline{16,186.27}$$

3. $(1+i) = \left(1 + \frac{.05}{4}\right)^4$ so $i = .05094533691$
annual effective



$$\text{Ans} = 10,000 (a_{\overline{10}|i}) + 1,000 \left(\frac{a_{\overline{10}|i} - 10v^{10}}{i} \right)$$

$$= \$108,314.950976$$