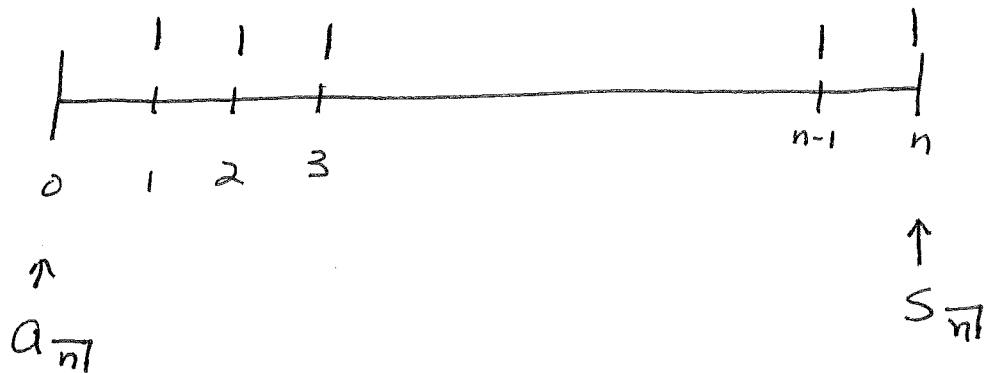


# INTEREST THEORY FACTS # 2

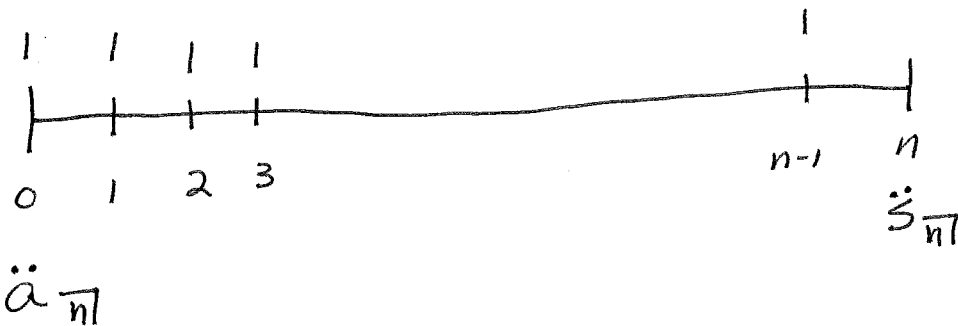
## ANNUITY IMMEDIATE



$$a_{n|} = \frac{1-v^n}{i}$$

$$s_{n|} = \frac{(1+i)^n - 1}{i}$$

## ANNUITY DUE



$$\ddot{a}_{n|} = \frac{1-v^n}{d} = \left(\frac{1-v^n}{i}\right)(1+i)$$

$$\ddot{s}_{n|} = \frac{(1+i)^n - 1}{d}$$

$$= \left[ \frac{(1+i)^n - 1}{i} \right] (1+i)$$

$$a_{n|} (1+i)^n = s_{n|} \quad a_{n|} (1+i) = \ddot{a}_{n|}$$

$$\ddot{a}_{n|} (1+i)^n = \ddot{s}_{n|} \quad s_{n|} (1+i) = \ddot{s}_{n|}$$

$$\ddot{a}_{n|} = 1 + a_{\overline{n-1}|} \quad \ddot{s}_{n|} = s_{\overline{n+1}|} - 1$$

$$\frac{1}{s_{n|}} + i = \frac{1}{a_{n|}}$$

$$\frac{1}{\ddot{s}_{n|}} + d = \frac{1}{\ddot{a}_{n|}}$$