

Deposit  $P$  / annual yield of 5.5%

old way

$$\begin{array}{r} 1000 \\ \times .055 \\ \hline 55000 \\ 50000 \\ \hline 55.000 \end{array}$$

$$P = \$1000$$

$I = \$55$  end of year account

worth  $1000 + 55 = \$1055$

New Way

Total money = 100% of principal + 5.5% of year.

Total money = 105.5% of principal

$$\begin{aligned} TM &= 1(1000) + .055(1000) \\ &= 1000(1 + .055) \\ &= 1000(1.055) = 1055 \end{aligned}$$

$$\begin{array}{r} 1000 \\ 1.055 \\ \hline 55000 \\ 50000 \\ \hline 1055000 \end{array}$$

$$TM_1 = \underline{(1000)} \underline{(1.055)} = 1055$$

$$TM_2 = \underline{(1000)} \underline{(1.055)} \underline{(1.055)}$$

$$1055 (1.055) = \boxed{1113.025}$$

$$TM_2 = TM \text{ from } \downarrow \text{ 1st year} + \text{int on 1st year}$$

$$= (\$1055)(100\%) + .055(1055)$$

$$= \underline{1} (1055) + \underline{.055} (1055)$$

$$= 1055 (1 + .055)$$

$$= 1055 (1.055)$$

$$TM_1 = \underline{1000} (1.055)$$

$$TM_2 = 1000 (1.055) (1.055)$$

$$= \underline{1000} (1.055)^2$$

initial starting point  
 rate  
 time

$$y = a b^x$$

$$TM_2 = 1000 (1.055)^3 = \$1174.24$$