

Solution - Common Stock ValuationPhase I

$$\text{Dividends} = \text{EPS} \times \text{payout ratio}$$

$$\text{DIV}_1 = 2 \times .3$$

$$\text{DIV}_2 = 2 \times .3 \times (1.18)$$

$$\text{DIV}_3 = 2 \times .3 \times (1.18)^2$$

$$\text{DIV}_4 = 2 \times .3 \times (1.18)^3$$

$$\text{DIV}_5 = 2 \times .3 \times (1.18)^4$$

growing annuity

$$\text{PV DIV Ph I} = .60 \left[ \frac{1}{(.12 - .18)} - \frac{(1.18)^5}{(.12 - .18)(1.12)^5} \right]$$

$$= \underline{\underline{2.98}}$$

## Phase II

$$EPS_5 = 2(1.18)^4 = 3.878$$

$$EPS_6 = EPS_5 \times 1.12 = 4.343$$

$$DIV_6 = EPS_6 \times \text{payout ratio}$$
$$= 4.343 \times 0.45$$

$$= 1.954$$

$$DIV_7 = 1.954 \times 1.12$$

$$DIV_8 = 1.954 \times 1.12^2$$

$$DIV_9 = 1.954 \times 1.12^3$$

growing annuity  
 $r=g$

$$PV \text{ Div Ph II} = \frac{1}{(1.12)^5} \left[ \frac{1.954 \times 4}{(1.12)} \right]$$

$$= \underline{\underline{3.96}}$$

## Phase III

$$\begin{aligned}EPS_{10} &= EPS_9 \times 1.07 \\ &= 6.101 \times 1.07 = 6.529\end{aligned}$$

$$DIV_{10} = 6.529 \times 0.6 = 3.917$$

$$DIV_{11} = 3.917 \times 1.07$$

$$DIV_{12} = 3.917 \times 1.07^2$$

$$\vdots$$
$$\vdots$$

growing  
perpetuity

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$$\text{PV DIV at time 9} = \frac{3.917}{.12 - .07} = 78.34$$

$$\text{PV DIV Ph III} = \frac{78.34}{(1.12)^9} = \underline{\underline{28.28}}$$

$$P_0 = \frac{PVDIV}{PhI} + \frac{PVDIV}{PhII} + \frac{PVDIV}{PhIII}$$

$$= 2.98 + 3.96 + 28.25$$

$$= \underline{\underline{\$ 35.19}}$$