

## Chapter 7

<b>Net Premium Policy Value</b>		
Present Value of Future Benefits – Present Value of Future Premiums = PVFB – PVFP		
<b>Gross Premium Policy Value</b>		
Present Value of Future Benefits + Present Value of Future Expenses – Present Value of Future Premiums = PVFB + PVFE – PVFP		
<b>Expense Policy Value</b>		
$P^e = P^g - P^i$		${}_tV^e = {}_tV^g - {}_tV^n = PVFE - PVFP^e$
<b>Full Preliminary Term Reserves</b>		
${}_1P^{FPT} = S \cdot v \cdot q_x$	$P_{x+1}^{FPT} = \frac{S \cdot A_{x+1}}{\ddot{a}_{x+1}}$	${}_tV^{FPT} = PVFB - PVFP^{FPT}$
<b>Recursive Formula for Policy Values</b>		
$({}_tV + P_t - e_t - X_t^{BOY})(1+i) = (S_{t+1} + E_{t+1})(q_{x+t}) + ({}_{t+1}V)(p_{x+t})$		*Note: Final year of Endowment Policy, replace ${}_{t+1}V$ with the endowment/maturity benefit