Summary of Key Formulas for PMP

Knowledge Area	Theme	Formula
Time Management	Project Scheduling	• ES of a successor activity = Max (EF) of its predecessor activities, adjusted by any constraints • EF = ES + Activity Duration • LF of a predecessor activity = Min(LS) of its successor activities, adjusted by any constraints • LS = LF-Activity Duration • Float = LS – ES (or) LF-EF
	Free Float	• Min (ESs of Succeeding activities) – EF of Current activity
	PERT estimates	• PERT duration mean = (O + 4*M + P) / 6 • Standard Deviation = (P – O) / 6 • Variance = ((P-O)/6) ^2
Cost Management	Earned Value	• CV=EV-AC • CPI = EV/AC • SV = EV-PV • SPI = EV/PV
	Earned Value - Forecasts	• EAC = AC + ETC • EAC (Atypical) = AC + (BAC-EV) – assuming original estimate were correct. • EAC (Typical) = BAC/CPI (assuming the same cost spending efficiency will continue in future as well) • EAC (Typical)= AC +((BAC-EV)/(CPI * SPI)) (if both CPI and SPI have to be taken into consideration) • VAC=BAC-EAC • VAC – ((BAC-EAC)/BAC)*100 % • TCPI (Using BAC) = (BAC-EV)/(BAC-AC) • TCPI (Using EAC) = (BAC-EV)/(EAC-AC)
	Return on Investment (ROI)	• ROI = (Average Annual Return/Total Investment)*100

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	Present Value (PV) of an Investment	• $PV = (FV)/((1+r)^n)$ Where FV is Projected Future value of the investment after "n" years and "r" is the discount rate per annum
	Net Present Value (NPV)	• $NPV = PV_I - PV_E$ Where - PV_I is the PV of Income stream across the lifecycle of the Product and PV_E is the PV of the Expense Stream across the lifecycle of the Product. This can also be calculated as $PV_{(I-E)}$, where (I-E) is the Net Income across the lifecycle of the Product
Communications Management	# of communications channels	• $(n*(n-1))/2$ – for an n member team
Risk Management	Risk Exposure (Score)	• Risk Exposure = P*I P = Probability, I = Impact
	Expected Monetary Value	• EMV = P*Outcome P = Probability, O = Outcome