

PMI® PMP®/CAPM® Certification Recommended Formulae Summary Sheet

Three Point Estimates

$$\text{PERT/Beta distribution} = \frac{(\text{Pessimistic} + 4 \times \text{Most Likely} + \text{Optimistic})}{6}$$

$$\text{Standard Deviation} = \frac{\text{Pessimistic} - \text{Optimistic}}{6}$$

$$\text{Variance} = \left[\frac{\text{Pessimistic} - \text{Optimistic}}{6} \right]^2$$

$$\text{Triangular distribution} = \frac{(\text{Pessimistic} + \text{Most Likely} + \text{Optimistic})}{3}$$

Earned Value Management

$$\text{EV} = \% \text{ complete} \times \text{PV}$$

$$\text{CV} = \text{EV} - \text{AC}$$

$$\text{CPI} = \text{EV} / \text{AC}$$

$$\text{SV} = \text{EV} - \text{PV}$$

$$\text{SPI} = \text{EV} / \text{PV}$$

$$\text{EAC for ETC work performed at CPI} = \text{BAC} / \text{CPI}$$

$$\text{EAC for ETC work performed at budgeted rate} = \text{AC} + \text{BAC} - \text{EV}$$

$$\text{EAC considering CPI and SPI} = \text{AC} + [(\text{BAC} - \text{EV}) / (\text{cum CPI} \times \text{cum SPI})]$$

$$\text{ETC} = \text{EAC} - \text{AC}$$

$$\text{TCPI based on BAC} = (\text{BAC} - \text{EV}) / (\text{BAC} - \text{AC})$$

$$\text{TCPI based on EAC} = (\text{BAC} - \text{EV}) / (\text{EAC} - \text{AC})$$

$$\text{Expected Monetary Value (EMV)} = \text{Probability} \times \text{Amount at Stake}$$

$$\text{Communication Channels} = [n(n-1)] / 2$$

Procurement

Incentive Fee Sharing Ratio = always in order of 'Buyer / Seller'

Ceiling Price = Final price cannot go beyond this (maximum price)

$$\text{PTA} = \left[\frac{(\text{Ceiling price} - \text{Target price})}{\text{Buyer share ratio}} \right] + \text{Target cost}$$

Quality

$$\pm 1 \text{ sigma} = 68.26\%$$

$$\pm 3 \text{ sigma} = 99.73\%$$

$$\pm 6 \text{ sigma} = 99.99985\%$$

Estimate Types

$$\text{Order of magnitude} = -25\% \text{ to } +75\%$$

$$\text{Budget estimate} = -10\% \text{ to } +25\%$$

$$\text{Definite estimate} = -5\% \text{ to } +10\%$$

Net Present Value (NPV)

$$\text{NPV} = \frac{P}{(1 + i)^t}$$

Where: P = Amount of cash flow

i = discount rate

t = time (# of years)