ENGR 301 Assignment 4a solution

4-1 SPI = EV/PV = 60,000/100,000 = 0.60 (0.60 is closest)

4-2 EV = 100% * $500 + 50% * $1000 + 75% * $100 = $1075 ($1075 is closest)

4-3 CPI = EV/AC = 1075/(500+700+90) = 0.83 (0.83 is closest)

4-4 Estimated cost to completion (b is correct)

4-5 EAC = BAC/CPI
BAC = $100 + $500 + $500 = $1100
EV = 100% * $100 + 75% * $500 + 25% * $500 = $600
AC = $150 + $400 + $200 = $750
CPI = EV/AC = 600/750 = 0.80
EAC = 1100/0.8 = $1375 ($1375 is closest)

4-6 If CPI > 1 the project is under budget. If SPI < 1 the project is behind schedule. (b is correct)

4-7 CV = EV – AC = 523,000 – 643,000 = –120,000
SV = EV – PV = 523,000 – 623,000 = –100,000 (d is correct)

4-8 EV = 100. AC = 120. CPI = EV/AC = 0.833 (0.83 is closest)

4-9 Close-out occurs at the end of the project, when all deliverables have been completed. CPI = 1 means that the project is on budget. SPI < 1 means that the project was ahead of schedule. (b is correct)

4-10 At this moment the project is behind schedule so SV_{now} <1. We have no idea if the lost time can be made up or not. We thus cannot conclude if the project will be completed ahead of scheduled completion time ($SV_{at\ completion}$ >1), on time ($SV_{at\ completion}$ =1) or late ($SV_{at\ completion}$ <1). (d is correct)