*When we know actual costs to date (AC) and have an estimate for remaing work (ETC), we can easily calculate the Estimate at Completion (EAC) by the using the formula: EAC = AC + ETC. However, if you have experienced difficulty helping others remember the formula(e) to calculate the "Estimate At Completion" (EAC) when you don't know the "Estimate To Complete" (ETC), you might appreciate the simplified formula(e) below. - David J. Lanners, PMP*

# Use: EAC = BAC / CPI

Simplify your math. Use **EAC = BAC / CPI** when variances will continue.

*The PMBOK Guide® uses one EAC formula for situations when variances to date are considered "atypical" and another formula for situations when similar variances are expected to continue to the end of the project.*
Note: with no variances at all **EAC = BAC**, and **AC = EV**, and **CPI = 1**.

*In the first situation above with no more variances to the project end . . .*

The PMBOK Guide® (7.4.3) gives us the following formula:

**EAC = AC + BAC - EV**

**EAC = ( AC – EV ) + BAC**

**EAC = ( Variance-to-date ) + BAC** [Note: this one is "easy" – right?]

*In the second situation with variances expected to continue . . .*

The PMBOK Guide® (7.4.3) gives us the following formula:

**EAC = AC + (( BAC - EV ) / CPI)**

**EAC = AC + ( BAC / CPI ) – ( EV / CPI )** but, CPI = EV / AC, so . . .

**EAC = AC + BAC / CPI - EV / ( EV / AC )** ( / = * by its inverse), so . . .

**EAC = AC + BAC / CPI – ( EV * ( AC / EV ) )** and EV / EV = 1, so . . .

**EAC = AC + BAC / CPI – AC** and AC – AC = "0", so . . .

**EAC = BAC / CPI** *Note: there is no help from including "AC" and "EV"*

*So, when variances are expected to continue use:* **EAC = BAC / CPI**