Earned Value Examples

Example 1: You have a construction project to be completed in 12 months and the total cost of the project is $100,000 USD. Six months have passed and you've spent $60,000 and the schedule says that 50% of the work should be completed. Upon closer review you find that only 40% of the work has been completed.

	Formula	Answer
Budgeted at Completion	Total cost/budget of project	
Planned Value	Planned % complete x BAC	
Earned Value	Actual % complete x BAC	
Actual Cost	Actual cost spent to date	
Cost Variance	EV - AC	
Schedule Variance	EV - PV	
Cost Performance Index	EV / AC	
Schedule Performance Index	EV / PV	
Estimated at Completion	BAC / CPI	
Estimated to Completion	EAC - AC	
Variance at Completion	BAC - EAC	
To-Complete Performance Index	(BAC - EV)/(BAC - AC)	

BAC = Budget at completion
AC = Actual cost to date
EV = Earned value
PV = Planned value

Example 2: You have a project to install 10 hair dryers in a salon. The cost per hair dryer is $2,750 and the project will last 10 weeks. At week 5, six hair dryers were installed and you've spent $15,500.

	Formula	Answer
Budgeted at Completion	Total cost/budget of project	
Planned Value	Planned % complete x BAC	
Earned Value	Actual % complete x BAC	
Actual Cost	Actual cost spent to date	
Cost Variance	EV - AC	
Schedule Variance	EV - PV	
Cost Performance Index	EV / AC	
Schedule Performance Index	EV / PV	

Estimated at Completion	BAC / CPI	
Estimated to Completion	EAC - AC	
Variance at Completion	BAC - EAC	
To-Complete Performance Index	(BAC - EV)/(BAC - AC)	

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	Formula	Answer
Budgeted at Completion	Total cost/budget of project	$100,000
Planned Value	Planned % complete x BAC	$50,000
Earned Value	Actual % complete x BAC	$40,000
Actual Cost	Actual cost spent to date	$60,000
Cost Variance	EV - AC	-$20,000
Schedule Variance	EV - PV	-$10,000
Cost Performance Index	EV / AC	0.66 or 0.67
Schedule Performance Index	EV / PV	0.8
Estimated at Completion	BAC / CPI	$149,253.73
Estimated to Completion	EAC - AC	$89,253.73
Variance at Completion	BAC - EAC	-$49,253.73
To-Complete Performance Index	(BAC - EV)/(BAC - AC)	1.5

Example 2: You have a project to install 10 hair dryers in a salon. The cost per hair dryer is $2,750 and the project will last 10 weeks. At week 5, 6 hair dryers were installed and you've spent $15,500.

	Formula	Answer
Budgeted at Completion	Total cost/budget of project	$27,500
Planned Value	Planned % complete x BAC	$13,750
Earned Value	Actual % complete x BAC	$16,500
Actual Cost	Actual cost spent to date	$15,500
Cost Variance	EV - AC	$1,000
Schedule Variance	EV - PV	$2,750
Cost Performance Index	EV / AC	1.06
Schedule Performance Index	EV / PV	1.2
Estimated at Completion	BAC / CPI	$25,943.39
Estimated to Completion	EAC - AC	$10,443.39
Variance at Completion	BAC - EAC	$15,56.61
To-Complete Performance Index	(BAC - EV)/(BAC - A C)	0.916 or 0.92