Material and Labour Variances: Find the Operational Cause

Controlling & Management Accounting | Intermediate | 60-75 minutes (estimate) | Standard costing basics

Worked numerical schedule

Measure	Value	Unit
Standard material allowed	2,000.00	kg
Material price variance	1,100.00	USD
Material usage variance	1,000.00	USD
Material cost difference	2,100.00	USD
Standard hours allowed	500.00	hours
Labour rate variance	1,080.00	USD
Labour efficiency variance	800.00	USD
Labour cost difference	1,880.00	USD
Total adverse production cost variance	3,980.00	USD
Variance reconciliation residual	0.00	USD

Interpretation and recommended actions

Material price $1,100 adverse and usage $1,000 adverse sum to $2,100. Labour rate $1,080 and efficiency $800 sum to $1,880. Total adverse cost is $3,980. Ask Procurement for supplier and freight rates, Operations for yield and rework logs, Payroll for overtime and grade mix. A supplier change does not establish the source of excess usage; rate changes can reflect staff mix as well as wage rates.

Scoring rubric - 100 points

Dimension	Points	Awarding guidance
Calculation	40	Four variances 24 (6 each); allowed quantities 6; total reconciliation 10.
Interpretation	25	Correct application of the case rules 10; explain the business decision 10; identify evidence or limitations 5.
Controls / audit trail	20	Traceable formulas 8; independent reconciliation 8; explicit units and signs 4.
Communication	15	Decision and numerical headline 5; actions with owners and evidence 5; concise response covering all required deliverables 5.

Award method credit after an isolated arithmetic error rather than repeatedly deducting for it. Equivalent account labels and well-supported alternative recommendations are acceptable. Numerical tolerance is 0.01 in the stated units; no universal passing score is prescribed.

Common mistakes

Using budget output instead of actual output for allowed quantity; applying standard quantity to price variance; labeling all adverse cost as waste.

Staged hints

Start with actual output × standard usage. Use actual quantity for price and actual hours for rate. Check against actual total cost less standard allowed cost.

Instructor notes

Prerequisites: Standard costing basics. Suggested use of the estimated 60-75 minutes: spend roughly 15% on the lesson and smaller example, 55% on the independent task, 20% on comparing approaches and 10% on the decision discussion. Timing is untested. Ask learners to explain why the numerical check is necessary but not sufficient.

For a simpler class, provide the model structure and work through one driver. For an extension, change one operational assumption and require a new reconciliation and recommendation. Verify the new key before distributing any variant. Open files in the intended spreadsheet application before class. Solutions are learning resources, not secure hiring examinations. Expert review remains pending.