Question 25 PORTLAND CO

Portland Co manufactures one product from a standard grade of material. The standard cost card indicates the following:

		$
Material	6 kgs @ $1.60	9.60
Labour	3 hours @ $4	12.00
Variable overhead	3 hours @ $1.70	5.10
Fixed overhead	3 hours @ $3	9.00
Standard cost per unit		35.70
Standard selling price		40.00
Standard profit per unit		4.30
Budgeted production and sales for week 1		1,100 units

Actual results for the week were as follows:

Production		1,000 units
		$
Materials	6,500 kgs @ $1.50	9,750
Labour	3,100 hours worked and paid	12,500
Variable overhead		5,200
Fixed overhead		9,800
		37,250
Sales	1,000 units @ $39	39,000
Actual profit		1,750

Required:

Calculate relevant variances in as much detail as the information allows.

(10 marks)

Potential limitations

- The stable conditions necessary for the learning curve to take place may not be present – unplanned changes in production techniques or labour turnover will cause problems and affect the learning rate.
- The employees need to be motivated, agree to the plan and keep to the learning schedule – these assumptions may not hold.
- Accurate and appropriate learning curve data may be difficult to estimate.
- Inaccuracy in estimating the initial labour requirement for the first unit.
- Inaccuracy in estimating the output required before reaching a "steady state" time rate.
- It assumes a constant rate-learning factor.

Answer 25 PORTLAND CO

(1) Sales volume variance

	Units
Actual sales	1,000
Budgeted sales	1,100
Variance (units)	100
× standard profit per unit	$4.3
Sales volume variance (Adverse/"A")	$430

(2) Sales price variance

	$
Actual sales × actual price	39,000
Actual sales × standard price (1,000 × $40)	40,000
Sales price variance (A)	1,000

(3) Materials price variance

	$
Actual materials purchased at actual price	9,750
Actual materials at standard price (6,500 × $1.6)	10,400
Materials price variance (Favourable/"F")	650

(4) Materials usage variance

	Kgs
Actual materials used	6,500
Standard quantity for actual output (1,000 units × 6)	6,000
Variance (kgs)	500
× standard cost per kg	$1.6
Material usage variance (A)	$800

(5) Labour rate variance

	$
Hours paid at actual rate	12,500
Hours paid at standard rate (3,100 × $4)	12,400
Labour rate variance (A)	100

(6) Labour efficiency variance

	Hours
Hours worked	3,100
Standard hours for actual output (1,000 units × 3)	3,000
Efficiency variance (hours)	100
Standard cost per hour	$4
Labour efficiency variance (A)	$400

(7) Variable overhead rate variance

	$
Actual variable overhead cost	5,200
Labour hours worked × standard variable overhead absorption rate per hour (3,100 × $1.7)	5,270
Variable overhead rate variance (F)	70

(8) Variable overhead efficiency variance

	Hours
Hours worked	3,100
Standard hours for actual output (1,000 units × 3)	3,000
Efficiency variance hours	100
Standard variable overhead rate per hour	$1.7
Labour efficiency variance (A)	$170

(9) Fixed overhead expenditure variance

	$
Actual fixed cost	9,800
Budgeted fixed cost (1,100 units × $9)	9,900
Fixed overhead expenditure variance (F)	100

(10) Fixed overhead volume variance

	Units
Actual output	1,000
Budgeted output	1,100
Volume variance (units)	100
× standard fixed overhead cost per unit	$9
Volume variance (A)	$900

(11) Fixed overhead capacity variance

	Hours
Hours worked	3,100
Budgeted labour hours (1,100 units × 3 hours)	3,300
Capacity variance hours	200
Standard fixed overhead absorption rate per hour	$3
Capacity variance (A)	$600

(12) Fixed overhead efficiency variance

	Hours
Hours worked	3,100
Standard hours for actual output (1,000 units × 3 hours)	3,000
Efficiency variance hours	100
Standard fixed overhead absorption rate per hour	$3
Fixed overhead efficiency variance (A)	$300

Tutorial note: *The fixed overhead capacity and efficiency variances provide a further analysis of the fixed overhead volume variance.*

Answer 26 DALLAS CO

Variances for period 2

(1) Sales volume variance

	Units
Actual sales	6,000
Budgeted sales	7,100
Variance (units)	1,000
× standard contribution per unit	$5
Sales volume variance (A)	$5,000.

(2) Sales price variance

	$
Actual sales × actual price	186,000
Actual sales × standard price (6,000 × $30)	180,000
Sales price variance (F)	6,000

(3) Materials price variance

	$
Actual materials purchased at actual price	103,000
Actual materials at standard price (33,000 kgs × 3)	99,000
Materials price variance (A)	4,000