

THE TRAINING PLACE OF EXCELLENCE

Financial Performance

Practice Assessment: Answers

1. The standard quantity of labour per unit is 27 minutes.

The budgeted quantity of materials needed to produce 16,500 units of Melo is 25,080 litres.

The budgeted labour hours to produce 20,000 units of Melo is 9,000 hours.

The budgeted labour cost to produce 16,500 units of Melo is £66,825.

The budgeted overhead absorption rate per unit is £4.67.

b. Compute all relevant variances.

Standard quantity = $22,800 / 15,000 \text{ units} = 1.52 \text{ lt/ unit}$

Standard unit cost = $£59,280 / 22,800 \text{ lts} = £2.60/\text{lt}$

i. Total material cost variance at 16,500 units of production:

Standard total material cost ($1.52 \text{ lt} \times £2.60 \times 16,500 \text{ units}$) £65,208

Actual total material cost (given) £62,370

Total material cost variance £2,838 Favourable

Standard labour hours/unit = $6750 \text{ hrs} / 15000 \text{ units} = 0.45 \text{ hrs / unit}$

Standard unit cost = $£60,750 / 6,750 \text{ hrs} = £9.00/\text{hr}$

ii. Total direct labour variance at 16,500 units of production:

Standard total labour cost ($0.45 \text{ hrs} \times £9 \times 16,500 \text{ units}$) £66,825

Actual total labour cost (given) £70,125

Total direct labour variance £3,300 Adverse

iii. Total fixed overhead variance at 16,500 units of production:

Actual cost of fixed overhead incurred (given) £72,500

Fixed overhead absorbed ($£70,000 / 15,000 \times 16,500 \text{ units}$) £77,000

Overhead under-absorbed £1,300 Favourable

c. The fixed production overheads were over-absorbed by £2,782.

$(£283850 / 17500 \times 18100) - £290800$

2. The standard cost per kilogram is £3.35. [$£(13950 + 1125) / 4500$]

b. Standard quantity required for actual production ($19,500 \text{ units} \times £3.10 \times 5.6 \text{ lts}$) £338,520

Actual quantity used for actual ($101,400 \times £3.10$) £314,340

Material usage variance £24,180F

c. The total labour efficiency variance is £31,750 favourable. [$(8050 \times 0.8 \text{ hr}) - 3900$] $\times £12.50$

The idle time variance is £1,562.50 adverse. $(4025 - 3900) \text{ hrs} \times £12.50$

3. The fixed overhead volume variance is £33,200 favourable.

(24000-20000)units x £8.30(i.e.£166000/20000units)

The actual fixed production overheads incurred were £182,480. (£166000+£16480)

b.

Variance	Amount (£)	Adverse/Favourable
Fixed overhead capacity	24700	Fav
Fixed overhead efficiency	9100	Adv

i. Fixed overhead capacity variance:

Standard cost of total <u>actual</u> hours worked (£6.50 x 18,200hrs)	£118,300
Standard cost of total <u>budgeted</u> hours (£6.50 x 14,400hrs)	<u>£93,600</u>
Fixed overhead capacity variance	<u>£24,700</u> Favourable

ii. Fixed overhead efficiency variance:

*Standard hours required for <u>actual</u> production (1.2hrs x £6.50 x 14,000units)	£109,200
*Actual hours used for <u>actual</u> production (18,200hrs x £6.50)	<u>£118,300</u>
Fixed overhead efficiency variance	<u>£9,100A</u>

4.

Budgeted variable cost for actual production			£43,015.60
Budgeted fixed cost			£4,400.00
Total budgeted cost for actual production			£47,415.60
Variance:	Favourable	Adverse	
Direct materials price		860	
Direct materials usage	425.60		
Direct labour rate	820.00		
Direct labour efficiency		1,530	
Fixed overhead expenditure		250	
Fixed overhead volume			
Total variance	£1245.60	£2,640	£1,394.40
Actual cost of actual production			£48,810.00

b. A company has a budgeted overhead absorption rate of £29 per unit and budgeted production of 13,200 units. The actual production was 11,900 units and the actual overheads incurred were £351,050.

Complete the following statement.

Under-absorption of overheads is £5,950. (£29x11900units)=£345100absorbed-£351050

5. Material price variance:

Standard cost of actual quantity used (1,250lt x £273)	£341,250
Actual cost of actual quantity used (1,250lt x £279.96)	<u>£349,950</u>
Material price variance	<u>£8,700</u> Adverse

130 =£273

132.5 = £278.25

i. The part of the variance explained by the increase in the price index is £6,562.50A.

Non-Controllable variance:

Original standard price for actual quantity used (1,250lt x £273)	£341,250.00
Revised standard price for actual quantity used (1,250lt x £278.25)	<u>£347,812.50</u>
Variance due to change in price index	<u>£6,562.50</u> A

ii. The part of the variance not explained by the increase in the price index is £2,137.50A.

Controllable variance:

Revised standard price for actual quantity used	£347,812.50
Actual cost of actual quantity used (£341250+8700)	<u>£349,950.00</u>
Variance due to other influences (real variance)	<u>£2,137.50 A</u>

iii. The percentage increase in the index is 1.92%

b.

	September X3	December X3
Cost per kilogram of Ber (£)	2,136.62	2,543.84

c. The forecast cost per kilogram, using the regression line, for November X3 is £229.78.

$y=29.83+(4.65x43)$

6. You have been provided with the following information for the month just ended for an organisation, which manufactures a single product:

	Budget		Actual	
Production (units)		25,000		28,400
Direct Materials	80,000 kg	£960,000	99,400 kg	£1,143,100

Total direct material variance

The total direct material variance simply compares the **flexed budget** for materials with the actual cost incurred. The flexed budget is the total budgeted cost of materials for the actual production level of 28,400 units in this example.

It is incorrect to calculate the variance as £183,100 adverse by comparing the actual cost of £1,143,100 with the budgeted cost of £960,000 since the actual level of production is not the same as originally budgeted.

The flexing of the budget calculates the quantity of materials which are expected to be used to produce the actual production. Therefore, the expected usage of materials to produce 28,400 units is £1,090,560 (if 80,000kg costing £960,000 is required to make 25,000 units then it follows, that to make 28,400 units requires 90,880 kilograms at a cost of £12 per kilogram (£960,000/80,000)).

This flexed budget can now be compared with the actual costs to produce the total material variance of £52,540. This variance is adverse because the actual cost was greater than the flexed budgeted cost.

Total material cost variance at 28,400 units of production:

Standard total material cost (3.2kg x £12 x 28,400units)	£1,090,560
Actual total material cost	<u>£1,143,100</u>
Total material cost variance	<u>£52,540</u> Adverse

This total variance can now be split into two elements:

- The material price variance- the variance due to the price being different to that which was expected.
- The material usage variance- the variance due to the quantity of material used per unit of production being different to that which was expected.

The standard price is £12 per kilogram (£960,000/80,000) and therefore the expected cost of 99,400 kilograms will be £1,192,800.

The price variance can now be calculated by taking the actual cost paid and comparing this to the expected cost. This results in a variance of £49,700. This variance is favourable because the actual cost is less than the expected cost.

Material price variance at 28,400 units of production:

Standard cost of actual quantity used (99,400kg x £12)	£1,192,800
Actual cost of actual quantity used	<u>£1,143,100</u>
Material price variance	<u>£49,700</u> Favourable

The material usage variance is calculated by taking the quantity of materials which would be expected to be used to produce the actual volume of production. In this case 28,400 units were produced and the expected quantity of materials for each unit is 3.2kg. Therefore, to produce 28,400 units requires 90,88kg of material. Compare this to the actual quantity used of 99,400 kg produces an adverse variance of 8,520kg which should be valued at the expected cost of £12 per kg.

Material usage variance:

Standard quantity required for actual production (3.2kg x £12 x 28,400units)	£1,090,560
Actual quantity used for actual production (99,400kg x £12)	<u>£1,192,800</u>
Material usage variance	<u>£102,240</u> A

If both variances have been calculated correctly they should reconcile back to the total materials variance.

Reconciliation:

Material price variance	£49,700 Favourable
Material usage variance	<u>£102,240</u> Adverse
Total material cost variance	<u>£52,540</u> Adverse

7.

	Scenario 1	Scenario 2
Return on net assets	6.733	5.015
Inventory holding period in days	86.036	96.179
Sales price per unit	£11.875	£8.70
Full production cost per unit	£7.00	£4.95

	Scenario 3
Net assets (£)	150,000
Return on net assets (%)	12
Profit margin (%)	9
Gearing (%)	20.25
Profit (to the nearest £)	18,000
Sales revenue(to the nearest £)	200,000

Gearing = Debt/ Equity

8.

	Product A	Product B
The contribution per unit	£850	£1,220
The contribution per kilogram of material	340	349
Ranking of products A and B	2 nd	1 st
Production in units	296	360
Total contribution	251,600	439,200

Should Jack purchase the additional material?	Give a reason
Yes	The additional cost is less than the contribution per kilogram, so it will still result in a contribution towards fixed costs

9.

	Sales price £50	Sales price £70
The target total production cost per unit	£37.50	£52.50
The target fixed production cost per unit	£17.50=£(37.50-20)	£31.50=£(52.50-21)
The target fixed production cost	£525,000	£693,000

Jaffa Limited should set the price at £70 in order to achieve the target profit margin.

10. Sales volume

The sales volume is expected to double (200%).

The volume increase will increase the profit margin if the fixed costs remain constant.

In this case the fixed production costs remain unchanged and therefore the increased volume will improve the gross profit margin.

Materials cost

The material cost per unit reduces by 20% to £4 per unit which will also improve the margin for the proposed position. The doubling of the volume is likely to allow the company to purchase in greater quantities and access additional discounts.

Labour cost

The labour cost per unit is unchanged and therefore has no effect on the margin.

There have been no economies of scale or learning effect.

Fixed production costs

The fixed production costs are constant in total but the important point is that they are spread over more units. The proposed position doubles the volume which reduces the fixed cost per unit. Fixed costs reduce by 50%. This will improve the margin for the proposed position.

(b)

i. Inventory levels (include a prediction of stock levels based upon the current stock turnover)

Inventory levels are likely to increase significantly because the volume of demand is expected to be higher and therefore higher inventory levels will be needed to fulfil orders.

Based upon the current inventory levels in relation to turn-over the forecast position will be that inventory levels may increase to around £560,000

£2,250,000 = £350,000

£3,600,000 = £3600,000/ 2,250,000 x 350,000 = £560,000

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where quality trainings & practical work placements take place

OR;

Current inventory days = $350,000 / 2,250,000 \times 365 = 56.78$ days, therefore cost of sales of (£3.6 million / 365) x 56.78 days = £560,000).

ii. Trade receivable levels (include a prediction of trade receivable levels based upon current trade receivables' days)

Trade receivables' levels are likely to increase significantly because the turnover increases.

£3,300,000 = £500,000

£5,400,000 = $£5,400,000 / 3,300,000 \times 500,000 = £818,000$ approx.

OR;

Current trade receivables days = $(500 / 3,300) \times 365 = 55.3$ days, therefore assuming similar profile trade receivables will increase to around £820,000 $(5,400,000 / 365) \times 55.3 = £818,000$.