مركز مهارات الأعمال
BUSINESS SKILLS CENTER

F2

Past exam

Mid-term 2

١٧ = ١٨ - ١٩

إعداد

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❖ Question1:

GIORGIO ARMANI Ltd. produces two types of clothing items: **T-shirts** and **Jeans**. The company uses **Activity-Based Costing (ABC)** with three activity cost pools. It expects to produce **1,000 units of T-shirts** and **500 units of Jeans**.

- The following data relate to annual overhead costs and expected use of cost drivers:

Annual Overhead Data			Expected Use of Cost Drivers per Product		
Activity Cost Pools	Cost Drivers	Estimated Overhead	Expected Use of Cost Drivers per Activity	T-shirts	Jeans
Machine Setup	Setups	$9000	30	20	10
Machining	Machine hours	30000	1000	300	700
Packing	Orders	6000	200	80	120

a) Calculate the overhead rate per cost driver for each activity:

Rate = Cost / activity

① Rate Mach setup = 9000 / 30 = 300/setup.

② Rate Machining = 30000 / 1000 = 30/Mach H

③ Rate Pack = 6000 / 200 = 30/order.

assigned allocated Applied. Rate x activity.

b) Assign each activity's overhead cost to the two products by completing the following schedule.

Activity Cost Pools	Cost Assigned to T-shirts	Cost Assigned to Jeans	
Machine Setup	300 x 20 = 6000	300 x 10 = 3000	9000
Machining	30 x 300 = 9000	30 x 700 = 21000	30000
Packing	30 x 80 = 2400	30 x 120 = 3600	6000
Total Assigned Cost	17400	27600	45000

c) Compute the overhead cost per unit for each product.

- **T-shirts.** 17400 ÷ 1000 = 17.4 /T-shirt
- **Jeans.** 27600 ÷ 500 = 55.2 / Jeans.

❖ Question2:

GIORGIO ARMANI Ltd. produces two types of clothing items: **T-shirts** and **Jeans**. The company uses **Activity-Based Costing (ABC)** with three activity cost pools. It expects to produce **1,000 units of T-shirts** and **500 units of Jeans**.

- The following data relate to annual overhead costs and expected use of cost drivers:

Annual Overhead Data			Expected Use of Cost Drivers per Product		
Activity Cost Pools	Cost Drivers	Estimated Overhead	Expected Use of Cost Drivers per Activity	T-shirts	Jeans
Machine Setup	Setups	$17,290	38	27	11
Machining	Machine hours	117,415	5,105	1,144	3,961
Packing	Orders	23,358	458	178	280

❖ Instructions

Using the above data, do the following:

1. **Calculate the overhead rate per cost driver for each activity.**

a. Machine Setup overhead rate. = 17290 ÷ 38 = 455 / setup.

b. Machining overhead rate. = 117415 ÷ 5105 = 23 / Mach H

c. Packing overhead rate. = 23358 ÷ 458 = 51 / order.

❖ ~~Solution:~~

	T-shir		Jeans		
Mach setup	(455 x 27) 12285	+	(455 x 11) 5005.	=	17290
Machining	(23 x 1144) 26312	+	(23 x 3961) 91103	=	117415.
Packing.	(51 x 178) 9078	+	(51 x 280). 14280	=	23358
	47675	+	110388		

(c) Cost/unit

47675 ÷ 1000 = 47,675.

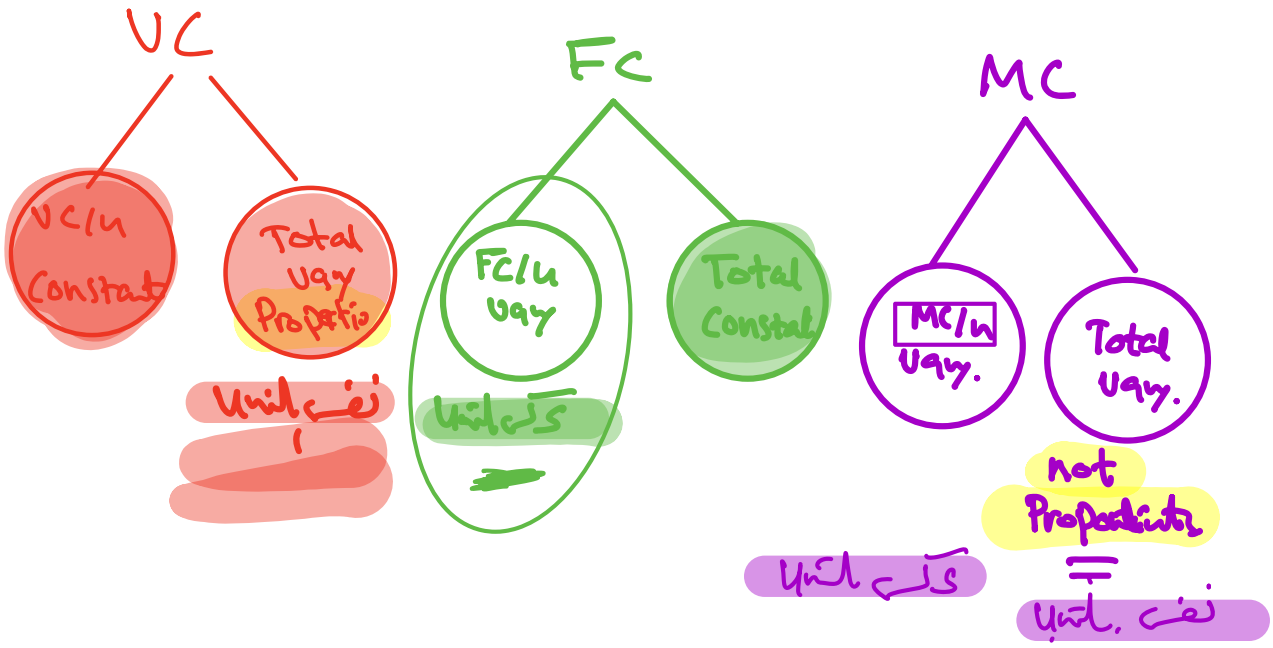
110388 ÷ 500 = 220.776

❖ **Question 3:** Unit

What effects will an increase in the level of activity have on the following costs?

Total Variable Costs	Increase Proportionately.	**Variable Cost per unit**	Remains Constant.
Total Fixed Costs	Remain Constant	Fixed Cost per unit	decrease.
Total Mixed Costs	Increas. but not Proptly.	Mixed Cost per unit	decrease.

❖ **Solution:**



Unit increase

❖ **Question 4:**

	Units produced and sold		
	1,000	2,000	3,000
Total costs:			
Variable cost (5)	5000	10000	15000
Fixed cost	6000	6000	6000.
Total costs	11000	16000	21000
Cost per unit:			
Variable cost	5	5	5
Fixed cost	6000÷1000 = 6	6000÷2000 = 3	6000÷3000 = 2
Total cost per unit	11	8	7

TVC — VAY increase
TFC — Constat
VC/u — constant
FC/u — decrease.

❖ **Solution:**

❖ Question 5:

Samsung Company's CVP income statement for the most recent month is shown below:

	Total	Per Unit
Sales (10000 units)	$100,000	$10
Variable costs	60,000	6
Contribution margin	40,000	4
Fixed costs	35,000	
Net income	5,000	

The management plans to apply a discount on selling price by $1 per unit .the marketing department predicts that this discount will increase the number of units sold by 50%

With consideration to these changes

❖ Instructions

Prepare the new CVP income Statement.

❖ Solution:

Change.

① SP = 10 − 1 = 9

② Unit: 10000 × 50% = 5000

10000 + 5000 = 15000

	Unit	SP.	
Sale	(10000	× 10)	100000.
− VC	(10000 × 6)		60000
CM	(10000 × 4)		40000.
− FC			35000
NI			5000.

dec UC 10%

6 × 10% = 0.6

6 − 0.6 = 5.4

dec SP 40%

10 × 40% = 4

10 − 4 = 6

inc SP 20%

10 × 20% = 2

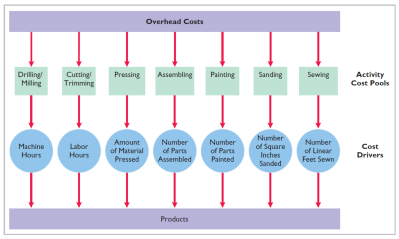
10 + 2 = 12

New CVP.

Sale	(15000 × 9)	135,000
− VC	(15000 × 6)	90000
* CM		45000
− FC		35000
* NI		10000

❖ **MCQ:**

1. Ordering materials, setting up machines, assembling products, and inspecting products are examples of



a. Non-manufacturing activities.
b. Overhead activities cost pools.
c. Direct labor costs.
d. Cost drivers.

	b.

2. One of IKEA Company's activity cost pools is inspecting, with estimated overhead of $180000. IKEA produces throw rugs (700 inspections) and area rugs (1300 inspections). How much of the inspecting cost pool should be assigned to throw rugs?

a. $96923.
b. $63000.
c. $90000.
d. $180000.

① Rate = $\frac{\text{cost } 180000}{\text{activity}(700+1300)} = 90$

② assig Throw = $90 \times 700 = 63000$

	b

ch18.

3. Regarding the relevant range, which of the following is correct?

a. It is the range over which a company expects to operate during a year.
b. Within the relevant range, the total fixed costs will remain constant.
c. It shows the maximum capacity that if the company exceeds, the total fixed costs will change.
d. All of the above.

	d.

Ch19 Sale Mix

(1)

	Sale	Sale Mix %
A	400	40%
+		
B	600	60%
	1000	

(2)

		CM/U		CM%			
A	400	40%	×	16	=	4	
+						+	
B	600	60%	×	20	=	12	
	1000					16	WACM

FC = 80000

(3) BEP Company. $= \frac{FC}{WACM} = \frac{80000}{16} = 5000.$

(4) BEP (A) = 5000 × 40% = 2000

BEP (B) = 5000 × 60% = 3000.

4. Vaughn Manufacturing has two divisions; Sporting Goods and Sports Gear. The sales mix is 70% for Sporting Goods and 30% for Sports Gear. Vaughn incurs $6760000 in fixed costs. The contribution margin ratio for Sporting Goods is 30%, while for Sports Gear it is 50%. The weighted-average contribution margin ratio is

a. 60%
b. 44%
c. 40%
d. 36%

Spow Goods 70% x 30% = 21%
Spot Gear 30% x 50% = 15%
+
36%

③ BEP Compo = 6760000 / 36% = 18 797 222

	d.

x70% x30%

④

5. Which of the following costs are variable?

Cost	10,000 Units		30,000 Units	
1. VC	$100,000	⑩	$300,000	⑩
2. MC	40,000	④	100,000	3.3
3. FC	90,000	=	90,000	
4. VC	50,000	⑤	150,000	⑤

a. only 1
b. only 2
c. 1 and 4
d. 1, 2, and 4

	c

6. Delivery costs at SMSA Express appear below for specific months of operations:

Month	Amount		Units Produced	
March	$20,000	÷	16,000 units	1.25
April	$18,000	÷	12,000 units	1.5

Which type of cost are delivery costs at SMSA Express?

a. Variable costs.
b. Mixed costs.
c. Unable to determine the answer without more information.
d. Fixed costs.

	b.

7. GREE A/C Company recorded the following production data over a six-month period: Using the high-low method, what is the estimated total cost equation for monthly production?

Month	Units Produced	Total Cost ($)
January	4	2,400
February	7	3,000
March	5	2,600
April	6	2,800
May	9	3,500
June	3	2,000

$VC/u = \frac{3500-2000}{9-3} = 250$ b.

$FC = 3500 - (250 \times 9) = 1250$

$2000 - (250 \times 3) = 1250$

$Y = 1250 + 250X$

a. Y = $1250 + $250X
b. Y = $600 + $320X
c. Y = $1,100 + $270X
d. Y = $900 + $290X

8. Sales are $100,000 and variable costs are $60,000. What is the contribution margin ratio?

Sale	100000
VC	60000
CM	40000

$CM\% = \frac{40000}{100000} \times 100 = 40\%$

a. 40%
b. 60%
c. 35%
d. Cannot be determined because amounts are not expressed per unit.

	a

9. A company sells a single product for **$20 per unit**. The variable cost is **$8 per unit**, and fixed costs are **$24,000**. What is the **break-even point in units**?

SP = 20
VC = 8
FC = 24000

*CM/u = 20 − 8 = 12

$BEP = \frac{24000}{12} = 2000$

a. 1,200 units
b. 2,000 units
c. 3,000 units
d. 4,000 units

	b

10. A company sells a product for **$20 per unit**. The **variable cost ratio is 60%**, and **fixed costs are $8,000**. What is the **break-even point in sales dollars**?

a. $20,000
b. $12,000
c. $8,000
d. $16,000

11. A company sells its product for **$12 per unit**. Fixed costs are **$400,000** and variable cost is **$8 per unit**. How many units must be sold to earn a **net income of $80,000**?

a. 50,000 units
b. 120,000 units
c. 60,000 units
d. 100,000 units

12. PlayStation 5 Corporation sells a single product for $130 per unit. The company reports the following:

Current sales: 39,400 units
Break-even sales: 35,066 units
What is the margin of safety in dollars?

a. $5,122,000
b. $4,558,580
c. $3,414,667
d. $563,420

13. A company has a unit contribution margin of $20 and a contribution margin ratio of 50%. What is the selling price per unit?

a. $30
b. $20
c. $40
d. $10

	C

14. The main function of the contribution margin is to cover:

a. Direct costs
b. Variable costs
c. Fixed costs
d. Mixed costs

	C