 Calculator

[1 Point]

After the massive floods on Rio Grande do Sul, you decided to volunteer with the **RedCross**, an NGO actively helping on the field in three different fronts: food distribution, medical relief, and housing reconstruction in the four different regions of the state.

Information about the costs and the different activities conducted by the Red Cross is provided below:

Costs May 2024	€
Fuel Cost	28 000 €
Medicines Cost	150 000 €
Construction Materials	1 640 000 €

Activities May 2024	North	West	East	South	Total
Kms Travelled	12 500	22 500	36 250	16 250	87 500
Medical Appointments	275	300	1 000	425	2 000
Squared Meters Rebuilt	350	700	600	400	2 050

Under Activity Based Costing, how much money has **RedCross** channeled to the South Region (rounded to units)?

A	357 075€
B	304 625€
C	566 600€
D	339 075€
E	None of the others

[1 Point]

Imagine that you are the plant manager of **Adike**'s factory in Cambodia. Adike is a well-known brand of sports apparel and footwear.

Under the controllability principle, which of the following situations **should be** reflected in your performance evaluation?

1. Utility costs declined 20% due to the implementation of LEDs in the factory.
2. Factory operated at 60% capacity due to the sudden bankruptcy of a key supplier.
3. Bad weather prevented trucks to reach the factory, making shipments twice as long.
4. Adike got fined on 1 million euros by the environment authorities amid poor waste management at the plant.
5. Sales declined 20% due to a successful advertising campaign conducted by a key competitor

A	1. and 4.
B	1. 4. and 5.
C	All but 3.
D	2. 4. and 5.
E	None of the others

[1 point]

Eristaff is a traditional spirits company, specialized in the production of two liquors: White liquor, the signature product, and Black liquor, a sweeter version, targeted for the younger generation, still growing in popularity.

Eristaff's management team is preparing the budget for next year and they provided the information below. Additionally, you contacted the Sales team, and they expect that for every 5 bottles of White liquor sold, 3 bottles of Black liquor will be sold.

Based on the sales team's projections and the information below, how many bottles of **White liquor** should the company sell to reach an operating profit of 250 000 €?

	White	Black
Selling Price before VAT	15 €	12 €
Manufacturing Variable Cost	7 €	6 €
Selling Commission (% of Price)	10%	8%
VAT (%)	20%	20%

	Amount
G&A Costs	300 000 €
Fixed Selling Costs	150 000 €
Manufacturing Fixed Costs	575 000 €

A	133 873
B	133 872
C	91 306
D	91 307
E	None of the others


[1 point]

Aura is a premium bicycle producer, operating a small factory in Italy. Regardless of the production, expenses related with the factory amounted to 100 000 € for the year. Consider the following information about the plant's capacity and the inventory movements for the year:

	Bicycles
Production	2 000
Practical Capacity	2 500
Closing Inventory of Finished Goods	500
Opening Inventory of Finished Goods	0

Given that all units in stock at the end of the year were produced within the same month, what is the difference in profits between Total Full Costing and Full Costing Based on Practical Capacity (i.e., Profit TFC – Profit FCPC)?

A	- 5 000€
B	5 000€
C	- 25 000€
D	25 000€
E	None of the others

 Calculator

Heritage Chocolate Co., is a chocolate producer, specializing in the production of dark chocolate. Consider the information below:

Static Budget	2000 Kgs	P&L Actual	1860 Kgs
Sales	76 000 €	Sales	74 400 €
Direct Materials	15 000 €	Direct Materials	
Direct Labor	30 000 €	Direct Labor	
Variable CC's	5 000 €	Variable CC's	
Contribution Margin	26 000 €	Contribution Margin	26 430 €
Fixed Costs	12 500 €	Fixed Costs	12 650 €
PBT Budget	13 500 €	PBT Actual	13 780 €

Static Budget Assumptions

	Quantity	Price
Direct Labor	3 000	10 €

[1 point]

What is the difference in profit attributable to changes in sales volume?

A	-1 820€
B	280€
C	-5 320€
D	430€
E	None of the others

[1 Point]


Knowing that the **actual labor hour cost** was 12.5€ and the **direct labor efficiency variance** is favorable in 300€, what was the actual number of hours worked in the factory during this period?

A	2 760 hours
B	2 766 hours
C	2 970 hours
D	2 820 hours
E	None of the others

[1 Point]

Knowing that the direct materials price variance was 0 and the direct materials efficiency variance was favorable in 3 000€, what is the actual direct materials cost in the P&L?

A	10 950€
B	16 950€
C	18 000€
D	12 000€
E	There is not enough information
F	None of the others

 Calculator

[3.5 Points]

Pearson, Specter & Litt (P,S&L) is a renewed law firm. They are specialized in 3 distinct areas of Law: Mergers and Acquisitions (M&A), Intellectual Property Disputes (IP) and Civil Litigation (CL).

The firm's senior partners, Harvey Specter, Jessica Pearson, and Louis Litt, have a limited number of billable hours available each month. Consider the information below:

Clients	M&A	IP	CL
Available Cases	8	20	35
Revenue per case	20 000 €	18 500 €	8 000 €
Associates Wages	4 000 €	2 000 €	1 000 €
Miscellaneous costs per case	1 000 €	1 500 €	2 600 €
Billable hours required per Case	12	20	10
Extra Info			
Available billable hours	720		
Monthly Wage per Senior Partner	50 000 €		
Office Monthly Fixed Costs	20 000 €		

6.1) How should P,S&L prioritize the 3 areas of business. What is the the maximum profit P,S&L may obtain this month?

Assume that each individual case is take it or leave it.

ANSWER ON PAPER


6.2) Unexpectedly, **McKernon Motors**, one of the oldest clients in the firm brought to PS&L a massive case. They are facing an hostile takeover attempt by a Chinese Vehicle Manufacturer and asked PS&L to prevent it. If not, they will be acquired, and PS&L will lose your client forever.

Your colleagues from the finance department estimated the (present) value of keeping McKernon Motors as a client as well as the costs with the case.

McKernon Motors Case	
Billable hours required	300
Present Value of McKernon Motors	100 000 €
Miscellaneous Costs	20 000 €

What is the minimum PS&L should charge McKernon in order to accept this case. Assume that there are no further repercussions if you decide not to do it.

ANSWER ON PAPER

 Calculator

[4.5 Points]

PrecisionTech Manufacturing, founded in 1995, has built a reputation for producing high-quality precision components for the aerospace and automotive industries. PrecisionTech Manufacturing produces two main components: Component X and Component Y.

As the company expanded, the complexity of its operations grew. Management realized that their traditional method of using a single overhead rate was no longer sufficient to accurately allocate costs, as it relied on **direct labor costs as the single cost driver**.

To address this issue, the company's CFO, Maria Sanchez, proposed moving to a more refined system of multiple homogeneous cost pools. This approach would ensure that overhead costs were allocated to the departments consuming the resources, leading to more accurate product costing and better decision-making.

The company is divided in the following homogeneous cost pools:

- **Machining:** The unit of work is machine hours (MHs).
- **Assembly:** The unit of work is direct labor hours (DLHs).
- **Maintenance:** The unit of work is maintenance hours (hs).
- **Factory Administration:** The unit of work is number of employees (emp.).

Additional Information:

1. Directly Assigned Overheads:

Directly Assigned Overheads	Euros
Machining	120 000 €
Assembly	80 000 €
Maintenance	50 000 €
Factory	30 000 €

2. Activities of Homogenous Cost Pools:

Users\Suppliers	Machining	Assembly	Maintenance	Factory Admin.
Component X	900 MHs	550 DLHs	-	-
Component Y	600 MHs	250 DLHs	-	-
Machining	-	-	600 h	25 emp.
Assembly	-	-	200 h	45 emp.
Maintenance	-	-	-	10 emp.
Factory Admin.	-	-	100 h	-
TOTAL	1 500 MHs	800 DLHs	900 h	80 emp.

3. Direct Material Costs:

Component X: 7 000 €
Component Y: 10 050 €

4. Direct Labor Costs:

Component X: 17 500 €
Component Y: 22 500 €

5. Work-in-progress Stocks:

Work in Progress	Component X	Component Y
Opening	750 €	400 €

Closing

200 €

550 €

7.1) Knowing that the company uses FIFO as the method of inventory valuation:

Calculate the Cost of Goods Manufactured for Component X using the current cost allocation method.


ANSWER ON PAPER

7.2) Knowing that the new cost allocation method, the company uses the **step-down method, compute the Cost of Goods Manufactured of Component X. **Comment the value obtained**, comparing it with the value obtained under the current method.**

CALCULATIONS ON PAPER, COMMENT ON WISEFLOW

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 Calculator

[5 Points]

SmallFish is a Portuguese Pastry Shop, founded in 1856, that produces a landmark Portuguese desert, Ovos Moles.

The team is currently updating the annual master budget ahead of the second half of 2024.

Luckily, they have taken care of most of the work for you, but they require your help to finish the financial budget and subsequent budgeted financial statements. Below you can find all the relevant information:

1. Financial Policy

- All financial transactions (investing and borrowing) occur at multiples of 1000.
- Cash at the end of each quarter should be 20% of (Sales + VAT) of the same quarter.
- **SmallFish** can borrow short-term funds at the beginning of the quarter at 6% annual interest rate, paid in the first day of the following quarter.
- **SmallFish** can make short-term investments at the beginning of the quarter at 3% annual interest rate, paid in the first day of the following quarter.
- Current long-term funding is secured at 7% annual interest rate, paid annually in the beginning of Q3. No changes are expected.
- For simplification purposes, do not assume any interest compounding effect

2. Other Assumptions

- Assume that each quarter has 90 days.
- Both Sales and Purchases of DM's are subject to **VAT of 20%**.
- SmallFish uses **FIFO** as its inventory management system.
- SmallFish uses **Variable Costing** as its cost accumulation system.

3. Opening Balances

Opening Balances	Q1
Cash	8 000
FG Inventory	15 000
ST Loans	0

4. Master Budget

Sales Budget	Q1	Q2	Q3	Q4	2024
Price	18 €	20 €	20 €	20 €	

Inventory FG (units)	Q1	Q2	Q3	Q4	2024
Opening	1 500	1 905	2 805	2 055	1 500
Production	3 280	3 475	3 500	3 500	13 755
Sales	2 875	2 575	4 250	3 500	9 700
Closing	1 905	2 805	2 055	2 055	2 055

COGM Budget	Q1	Q2	Q3	Q4	2024
DM	11 808 €	13 900 €	14 000 €	14 000 €	53 708 €
Variable Conversion Costs	26 240 €	27 105 €	28 000 €	28 000 €	109 345 €
COGM	38 048 €	41 005 €	42 000 €	42 000 €	163 053 €
COGM per unit	11.6 €	11.8 €	12.0 €	12.0 €	

Fixed Costs Budget	Q1	Q2	Q3	Q4	2024
MOH's	15 000 €	15 000 €	15 000 €	15 000 €	60 000 €
SG&A	8 000 €	8 000 €	8 000 €	8 000 €	32 000 €
Total	23 000 €	15 000 €	15 000 €	15 000 €	15 000 €
of which Depreciation	4 000 €	4 000 €	4 000 €	4 000 €	16 000 €

VAT Balance	Q1	Q2	Q3	Q4	2024
VAT Collectible	10 350 €	10 300 €	17 000 €	14 000 €	37 650 €
VAT Paid	1 980 €	2 790 €	2 800 €	3 400 €	7 570 €
VAT Payable to Govt	8 370 €	7 510 €	14 200 €	10 600 €	30 080 €

Operating Cash Balance	Q1	Q2	Q3	Q4	2024
Operating Cash Balance	-3 868 €	-7 745 €	24 010 €	6 600 €	18 997 €

Balance Sheet	Q1	Q2
---------------	----	----

ASSETS

Plant, Property and Equipment	35 000 €	31 000 €
Non-Current Assets	35 000 €	31 000 €

Direct Materials Inventory	6 950 €	7 000 €
Finished Goods Inventory	22 098 €	33 099 €
Accounts Receivables	10 350 €	10 300 €
Cash	13 132 €	13 252 €
Total Current Assets	52 530 €	63 651 €
Total Assets	87 530 €	94 651 €

EQUITY

Share Capital	20 000 €	20 000 €
Retained Earnings	25 015 €	22 906 €
Total Equity	45 015 €	42 906 €

LIABILITIES

Long Term Loan	20 000 €	20 000 €
Payables to Suppliers	3 960 €	5 580 €
ST Loans	9 000 €	17 000 €
Interest Payable	1 185 €	1 655 €
VAT Payable to State	8 370 €	7 510 €
Total Liabilities	42 515 €	51 745 €
Total Equity and Liabilities	87 530 €	94 651 €

8.1) Prepare the Financial Budget for Q3 and Q4. Present all the relevant calculations in the answer sheet, while filling the table you can find below.

CALCULATIONS ON PAPER, FILL THE FINANCIAL BUDGET BELOW (ROUNDED TO UNITS AND NO WHITESPACE, e.g, 1234.56 >>> 1235)

Financial Budget	Q3	Q4
Opening Cash	<input type="text" value="0"/>	<input type="text" value="0"/>
Positive Cash Balance	<input type="text" value="0"/>	<input type="text" value="0"/>
ST Borrowing	<input type="text" value="0"/>	<input type="text" value="0"/>
LT Borrowing	<input type="text" value="0"/>	<input type="text" value="0"/>
Sale of Short Term Investments	<input type="text" value="0"/>	<input type="text" value="0"/>
Interest Received	<input type="text" value="0"/>	<input type="text" value="0"/>
Total Sources	<input type="text" value="0"/>	<input type="text" value="0"/>
Closing Cash	<input type="text" value="0"/>	<input type="text" value="0"/>
Negative Cash Balance	<input type="text" value="0"/>	<input type="text" value="0"/>

Interest on Loans	<input type="text" value="0"/>	<input type="text" value="0"/>
Short Term Loan Reimbursement	<input type="text" value="0"/>	<input type="text" value="0"/>
Long Term Loan Reimbursement	<input type="text" value="0"/>	<input type="text" value="0"/>
Short Term Investments	<input type="text" value="0"/>	<input type="text" value="0"/>
Total Uses	<input type="text" value="0"/>	<input type="text" value="0"/>

8.2) Prepare the P&L Budgeted for Q3 and Q4. Present all the relevant calculations in the answer sheet, while filling the table you can find below. Round to the nearest unit.

Note: Only if you were unable to do question 6.1, please consider the information below.

	Q1	Q2	Q3	Q4
Outstanding Loans ST	9 000 €	17 000 €	20 000 €	0 €
Outstanding Loans LT	20 000 €	20 000 €	20 000 €	20 000 €
Outstanding ST Investments	0 €	0 €	0 €	2 000 €

CALCULATIONS ON PAPER, FILL THE P&L BELOW (ROUNDED TO UNITS AND NO WHITESPACE, e.g, 1234.56 >>> 1235)

Budgeted P&L	2024 Q3	2024 Q4
Sales Revenues	<input type="text" value="0"/>	<input type="text" value="0"/>
COGS	<input type="text" value="0"/>	<input type="text" value="0"/>
Gross Profit	<input type="text" value="0"/>	<input type="text" value="0"/>
UROH	<input type="text" value="0"/>	<input type="text" value="0"/>
SG&A	<input type="text" value="0"/>	<input type="text" value="0"/>
EBIT	<input type="text" value="0"/>	<input type="text" value="0"/>
Financial Revenues	<input type="text" value="0"/>	<input type="text" value="0"/>
Financial Expenses	<input type="text" value="0"/>	<input type="text" value="0"/>
PBT	<input type="text" value="0"/>	<input type="text" value="0"/>