

1. The European Electronics Company has 3 divisions. The following budgeted data are available for its German division:
- \* the sales are 2,500 units at a selling price of € 80 per unit
  - \* variable expenses are € 35 per unit
  - \* fixed expenses are € 87,500
- If the unit contribution margin is increased by 10%, the total fixed expenses decreased by 5%, and all other data remain as in the budget, net operating income will be
- a. € 15,625
  - b. € 18,125
  - c. € 31,875
  - d. € 40,625

Answer d. is correct. See calculations and explanations in Excel file.

2. Kentucky Company has a margin of safety percentage of 25%. The variable expenses are 60% of sales. Sales in the break-even point are € 720,000.  
Given this information, the net operating income is
- a. € 72,000
  - b. € 96,000
  - c. € 144,000
  - d. € 384,000

Answer b. is correct. See calculations and explanations in Excel file.

3. To make a target profit of € 1,000,000 at a level of fixed expenses of € 3,500,000 a company has to produce and sell 12,500,000 products.  
Which of the following statements must be true:
- a. The unit contribution margin is € 0.36.
  - b. The contribution margin is € 2,500,000 in total.
  - c. The variable costs are € 0.40 per unit at a product selling price of € 0.75.
  - d. The target cost is € 4,500,000.

Answer b. is correct. Units sold to attain the target profit = (fixed expenses + target profit) : unit contribution margin. See also the Power Point sheets in week 2.

4. Sea Shorts manufactures and sells swimming shorts. Last year, the shorts sold for € 10,00 each, and the variable expense was € 3,00 per unit. The company needed to sell 30,000 shorts to break even. The net operating income last year was € 18,900.  
At a selling price of € 9,00 per unit, sales for this year are expected to exceed last year's by 500 units. If this occurs, the sales volume in euro's this year will be
- a. € 294,300
  - b. € 298,800
  - c. € 327,000
  - d. € 332,000

Answer b. is correct. See calculations and explanations in Excel file.

5. A general rule in relevant cost analysis is

- a. variable costs are always relevant
- b. fixed costs are always irrelevant
- c. differential costs are always relevant
- d. sunk costs are always relevant

Answer c. is correct. A relevant cost in a decision is a cost that differs between alternatives. A sunk cost is a cost that has already been incurred, and which cannot be changed by any future decision, and that's the reason why it is irrelevant for future decision making. A variable cost can be a sunk cost, if it has already been incurred. Not all fixed costs are sunk; only those for which a cost outlay has already been made.

6. Company Playground produces four products. Per unit data concerning these products are:

	A	B	C	D
selling price	€ 70	€ 81	€ 90	€ 100
variable expenses:				
direct materials	€ 15	€ 18	€ 24	€ 24
other variable expenses	€ 24	€ 24	€ 24	€ 36
total variable expenses	€ 39	€ 42	€ 48	€ 60

Each product consumes the same amount of raw material, at a cost of € 3 per kilo. The demand for the company's products is very strong; with far more orders each month than the company is able to execute given the raw materials available for production. To maximize profit, for which product should the company accept orders first?

- a. product A
- b. product B
- c. product C
- d. product D

Answer b. is correct. See calculations and explanations in Excel file. The key factor is not how much of a constrained resource a product uses, or how much the contribution margin for each product is, but rather how much contribution margin the product generates per unit of the constrained resource. That's product B.

7. Simson Company makes 150,000 units per year of a part it uses in the products it manufactures. The unit product cost of this part is computed as follows:

Direct materials	€ 8
Direct labour	€ 7
Variable manufacturing overhead	€ 2
Fixed manufacturing overhead	<u>€ 20</u>
Unit product cost	€ 37

An outside supplier has offered to provide the company with all these parts it needs for € 34 a unit. If the company accepts this offer, the facilities now being used to make the part could be used to

make more units of a product that is in high demand. The additional contribution margin on this other product would be € 750,000 per year.

If the parts were purchased from the outside supplier, all of the direct and variable cost of the part would be avoided. However, € 7 of the fixed manufacturing overhead cost being applied to the part would continue even if the parts were purchased from the outside supplier. This fixed manufacturing overhead cost would be applied to the company's remaining products.

What is the net total advantage of purchasing the parts rather than making it?

- a. € 150,000
- b. € 300,000
- c. € 450,000
- d. € 600,000

Answer a. is correct. See calculations and explanations in Excel file.

8. A company should drop a product line if

- a. it is unprofitable
- b. all the costs are irrelevant costs
- c. the loss in contribution margin exceeds the fixed costs savings
- d. the fixed costs savings exceed the loss in contribution margin

Answer d. is correct. See also the coffee example in week 2. As long as fixed costs are covered by contribution margin, a company should not drop a product line, unless fixed costs drop faster than the contribution margin.

9. The CEO of Guitar King Company decides to make the company less vulnerable by adding a line of bass guitars to its current guitar lines. Expected cost and revenue data for the new bass guitars are as follows:

Annual sales	2,000 units
Selling price per unit	€ 250
Variable costs per unit:	
* Production	€ 140
* Selling	€ 12
Avoidable fixed costs per year:	
* Production	€ 32,000
* Selling	€ 40,000
Allocated common fixed costs per year	€ 20,000

If the bass guitars are added to its guitar lines, it is expected that the contribution margin of other product lines at the Guitar King Company will drop by € 9,000 per year.

What is the lowest selling price per unit that could be charged for the new bass guitars and still make it economically desirable to add this new product line:

- a. € 192.50
- b. € 198.00
- c. € 201.50
- d. € 202.50

Answer a. is correct. See calculations and explanations in Excel file.

10. Stone Company uses a predetermined overhead rate based on machine hours to apply manufacturing overhead to jobs. Stone Company has provided the following estimated costs for next year:

Direct materials	€ 20,000
Direct Labour	€ 60,000
Sales commissions	€ 80,000
Salary of production supervisor	€ 40,000
Indirect materials	€ 9,000
Advertising expenses	€ 16,000
Rent on factory equipment	€ 20,000

Stone estimates that 12,000 direct labour hours and 15,000 machine hours will be worked during the year. The predetermined overhead rate per hour will be

- a. € 3.27 (truncated)
- b. € 4.60
- c. € 5.67 (truncated)
- d. € 11.00

Answer b. is correct. Total manufacturing (!) overhead costs are € 40,000 + € 9,000 + € 20,000 = € 69,000. Divided by 15,000 machine hours = € 4.60.

11. Under absorption costing, which of the following costs is least probable to be absorbed in the cost price:
- a. indirect materials
  - b. marketing costs
  - c. depreciation costs of the factory building
  - d. indirect labour

Answer b. is correct. Absorption costing concerns in principle manufacturing costs and marketing costs are non-manufacturing costs.

12. A factor that causes overhead costs is called a
- a. cost pool
  - b. cost driver
  - c. cost centre
  - d. conversion cost

Answer b. is correct. See the definition in the textbook.

13. Wakeman Industries has been using a traditional overhead allocation system based on labour-hours. For the next year, Wakeman Industries decides to switch to an activity-based costing system using labour-hours and the number of batches processed as measures of activity. Information on these measures of activity and related overhead rates for the current year are as follows:

estimated activity	predetermined overhead rate
--------------------	-----------------------------

labour hours	30,000	€ 7 per labour-hour
number of batches	3,000	€ 45 per batch

A specific job for next year will require 200 labour-hours and 18 batches to be processed. What would be the amount by which this job would have been overcosted or undercosted under the traditional system?

- a. undercosted by € 90
- b. undercosted by € 140
- c. overcosted by € 90
- d. overcosted by € 140

Answer c. is correct. See calculations and explanations in Excel file.

14. Purchase order processing is an example of a

- a. unit-level activity
- b. batch-level activity
- c. product-level activity
- d. organisation-sustaining activity

Answer b. is correct. Purchase order processing is performed each time a batch of products is ordered.

15. Considering the replacement of a traditional costing system with activity based costing (ABC), which of the following statements is **not** correct, as stated in the text book:

- a. Organization-sustaining manufacturing costs are assigned to products under ABC, while they are not assigned to products under traditional costing systems.
- b. When there are batch-level costs, ABC will ordinarily shift costs from high-volume products produced in large batches to low-volume products produced in small batches.
- c. ABC is concerned with both manufacturing overhead and selling, general and administrative overhead, where traditional costing systems do not assign non-manufacturing costs to products.
- d. Traditional costing systems assign all manufacturing overhead to products, while ABC only manufacturing costs are assigned to products if they are caused by products.

Answer a. is correct, i.e. that statement is incorrect. See the explanations in the text book (last paragraph and summary).

16. Cristal Company is considering implementing an Activity Based Costing (ABC) system to cover the costs of manufacturing overhead. The managers are wondering what will be the consequences for the cost prices of products? See the data below:

Cost-data three products:	A	B	C
Annual production	1,250	2,500	2,000
Material cost per unit	€ 5.00	€ 9.00	€ 7.00
Direct labour cost per unit	€ 16.00	€ 13.00	€ 16.00

ABC-data three products:	A	B	C
Number of set-ups	40	80	40
Machine maintenance (hours)	25	40	20

Number of purchases	6	10	4
Number of shipments	4	4	6

ABC-data for all products:	Annual cost	Annual volume
Number of set-ups	€ 135,000	900
Machine maintenance (hours)	€ 60,000	3,000
Number of purchases	€ 36,000	240
Number of shipments	€ 30,000	120

Which of the following statements is correct:

- The cost price of product A is the highest.
- Product B is charged with the highest amount of manufacturing overhead costs per unit.
- The product with the highest amount of direct costs per unit is charged with the lowest amount of manufacturing overhead costs per unit.
- The cost prices of all products are below € 28.

Answer c. is correct. See calculations and explanations in Excel file.

17. The Main Division Europe of the Taunus Corporation requires 20,000 special parts X each year. The division has two options:

- The Main Division has asked the Support Division to provide it with special parts X. The Support Division works for other divisions in the company as well as for outside customers. The parts X would require € 25.00 per unit in variable production costs.
- The Main Division Europe has a bid from an outside supplier for the special parts X at € 90.00 per unit.

In order to have time and space to produce the special part, the Support Division would have to cut down production of another part Y it currently produces. The Part Y sells for € 80.00 per unit, and requires € 30.00 per unit in variable production costs. Packaging and shipping costs of part Y are € 6.00 per unit.

Packaging and shipping costs for the new special part X would be only € 3.00 per unit.

The Support Division is now producing and selling 100,000 units of part Y each year. Production and sales of part Y would drop by 8% if the new special part X is produced for the Main Division Europe.

The minimum transfer price for the Support Division is

- € 14.00
- € 45.60
- € 72.00
- € 80.00

Answer b. is correct. See calculations and explanations in Excel file.

18. Maxim Company is considering the introduction of a new product. To determine a target selling price, the company has gathered the following information:

number of units to be produced and sold each year	15,000
unit product cost	€ 25
projected annual selling, general, and administrative expenses	€ 60,000

estimated investment required by the company	€ 750,000
desired return on investment (ROI)	12%

The target selling price per unit is

- a. € 10.00
- b. € 29.00
- c. € 31.00
- d. € 35.00

Answer d. is correct. See Exercise E7-2.

$$\begin{aligned}\text{Markup percentage} &= (\text{required ROI} \times \text{investment} + \text{SG\&A}) : (\text{volume in units} \times \text{unit product cost}) \\ &= ((12\% \times € 750,000) + € 60,000) : (15,000 \text{ units} \times € 25) \\ &= 40\%\end{aligned}$$

$$\text{Unit product cost} = € 25$$

$$\text{Markup} = 40\% \times € 25 = € 10$$

$$\text{Target selling price per unit} = € 35$$

19. Ordinarily, in which situation the market price will not be the best transfer price when products are transferred between divisions of a company:
- a. the selling division has idle capacity
  - b. the purchasing division has idle capacity
  - c. the transfer leads to opportunity costs due to lost sales revenues from customers outside the company
  - d. the price elasticity of demand is high

Answer a. is correct. Using the market price as the transfer price can lead to suboptimisation when the selling division has idle capacity. This happens because the purchasing division regards the transfer price as the cost of the transferred item, but from the standpoint of the company, the cost of the transferred item is just the variable cost of producing it when there is idle capacity. If the market price exceeds the variable cost (which will ordinarily happen), managers in the purchasing division will make less than optimal pricing and other decisions concerning the product.

20. Which is **not** the major benefit of budgeting:

- a. The budgeting process can uncover potential bottlenecks before they occur.
- b. The budgeting process separates the activities of the entire organization, resulting in independent plans of the various parts.
- c. Budgets define goals and objectives that can serve as benchmarks for evaluating subsequent performance.
- d. Budgets force managers to think about and plan for the future.

Answer b. is correct. Budgets do not separate, but coordinate the activities of the entire organization by integrating the plans of the various parts. Budgeting helps to ensure that everyone in the organization is pulling in the same direction.

21. Renegade Company makes a product that has its peak sales in May of each year; see the company's sales budget for the second quarter given below:

	April	May	June
Budgeted sales	€ 300,000	€ 400,000	€ 250,000

The company has learned from past experience that 15% of a month's sales are collected in the month of sale, another 65% in the following month and the remaining is collected in the second month following the sales. Bad debts can be ignored. February sales totalled € 200,000 and March sales totalled € 240,000.

Given these data, the total cash collected during the second quarter would be:

- a. € 292,500
- b. € 303,000
- c. € 901,500
- d. € 912,000

Answer c. is correct. See calculations and explanations in Excel file. But a complete figure is not necessary. Another approach would be:

- February sales: 20% will be paid in the second quarter
- March: 85%
- April: 100%
- May: 80%
- June: 15%

22. As the head of the Accounting Department, you have asked four candidates for a job in your department to draft the production budget for your company for next year on a quarterly basis (Q = Quarter). Candidates A, B, C, and D composed the following statements, respectively:

<b>Production budget (A)</b>	Q1	Q2	Q3	Q4	Year
Budgeted sales in units	13,000	16,000	17,000	14,000	60,000
Required ending stock (units)	3,200	3,400	2,800	3,000	3,000
Total goods needed (units)	16,200	19,400	19,800	17,000	63,000
Less: beginning stock (units)	3,400	2,800	3,000	2,800	2,500
Production required (units)	12,800	16,600	16,800	14,200	60,500



<b>Production budget (B)</b>	Q1	Q2	Q3	Q4	Year
Budgeted sales in units	13,000	16,000	17,000	14,000	60,000
Required ending stock (units)	3,200	3,400	2,800	3,000	12,400
Total goods needed (units)	16,200	19,400	19,800	17,000	72,400
Less: beginning stock (units)	3,400	2,800	3,000	2,800	12,000
Production required (units)	12,800	16,600	16,800	14,200	60,400

<b>Production budget (C)</b>	Q1	Q2	Q3	Q4	Year
Budgeted sales in units	13,000	16,000	17,000	14,000	60,000
Required ending stock (units)	3,200	3,400	2,800	3,000	3,000
Total goods needed (units)	16,200	19,400	19,800	17,000	63,000
Less: beginning stock (units)	2,500	3,200	3,400	2,800	2,500
Production required (units)	13,700	16,200	16,400	14,200	60,500

<b>Production budget (D)</b>	Q1	Q2	Q3	Q4	Year
Budgeted sales in units	13,000	16,000	17,000	14,000	60,000
Required ending stock (units)	3,200	3,400	2,800	3,000	12,400
Total goods needed (units)	16,200	19,400	19,800	17,000	72,400
Less: beginning stock (units)	2,500	3,200	3,400	2,800	11,900
Production required (units)	13,700	16,200	16,400	14,200	60,500

Which candidate would you offer the job, i.e. has drafted the best production budget:

- a. candidate A
- b. candidate B
- c. candidate C
- d. candidate D

Answer c. is correct. The ending stock Q1 = the beginning stock Q2 etc. (and not the other way around), so alternatives A and B are incorrect. In the year's totals, the beginning stock is the beginning stock of Q1 and not the sum of all four beginning stocks of all the quarters. Mutatis mutandis for the ending stock (= ending stock Q4).

23. Budgeting will lead to a budgeted income statement and a budgeted balance sheet. However, to prepare budgets, some of these budgets require facts from the actual balance sheet to be drafted. Following the preparation of these budgets as presented in the text book and the case you made in the tutorial concerning the preparation of a master budget; how many of the following budgets will most probably require figures from the actual balance sheet?

- the sales budget (including the scheduled cash collections from debtors)
- the production budget
- the raw materials budget
- the cash budget

- a. 1
- b. 2
- c. 3
- d. 4

Answer d. is correct. The production budget, the raw materials and the cash budget need information about the beginning stock (of finished products, raw materials and cash). The sales budget is a forecast that does not need exact figures from the balance sheet for its forecast, but in order to make a schedule for the cash collections, the debtors from the balance sheet are required.

24. The use of standards (for costs) has several advantages. However, there are also disadvantages that should be taken into consideration. How many of the following items are potential drawbacks of using the standard costs?

- the standard costs may be used for management by exception
- emphasizing standards may exclude other important objectives
- continuous improvement may be more important than meeting standards
- emphasis on negative variances may impact morale
- favourable variances may be misinterpreted

- a. 2
- b. 3
- c. 4
- d. 5

Answer c. is correct. See also the Power Point sheets of the specific lecture. Management by exception is in general not a disadvantage, as it allows managers to spend more time on other activities.

25. The standard cost card for one unit of a certain finished product shows the following:

	<u>standard quantity or hours</u>	<u>standard price or rate</u>
direct materials	5 pounds	€ 18 per pound
direct labour	4 hours	€ ??? per hour
variable manufact. overhead	2 hours	€ 7 per hour

The total standard variable cost for one unit of finished product is € 180.

In December, the total production was 500 finished products. In that period the actual quantity of labour hours used per product was 5 hours and the actual labour rate € 20 per hour.

The labour rate variance in December is:

- a. € 10,000 unfavourable
- b. € 9,500 unfavourable
- c. € 2,500 unfavourable
- d. € 2,000 unfavourable

Answer c. is correct. See calculations and explanations in Excel file.

26. The following materials standards have been established for a particular product:

Budgeted output	1,500 products
Standard quantity per unit of output	5.3 meters

Standard price € 17.20 per meter

The following data pertain to operations concerning the product for the month November:

Actual output	1,400 products
Actual materials purchased	8,100 meters
Actual materials used in production	7,600 meters
Actual cost of materials purchased	€ 141,345

The materials efficiency variance in November is:

- a. € 3,141 unfavourable
- b. € 3,096 unfavourable
- c. € 2,025 unfavourable
- d. € 6,020 favourable

Answer b. is correct. See calculations and explanations in Excel file.

27. G&C Company uses a standard cost system in which manufacturing overhead is applied to units of product on the basis of direct labour-hours. Each unit requires three standard hours of labour for completion. The denominator activity for the year was based on budgeted production of 90,000 units. Total overhead was budgeted at € 840,000 for the year, and the fixed overhead rate was € 5.00 per unit. The actual data pertaining to the manufacturing overhead for the year are presented below:

Actual production	87,000 units
Actual direct labour-hours	274,050 direct labour-hours
Actual total overhead	€ 840,000 (from witch € 440,000 was fixed)

G&C Company's variable overhead efficiency variance for the year is:

- a. € 5,670 unfavourable
- b. € 18,270 unfavourable
- c. € 16,330 unfavourable
- d. € 34,600 unfavourable

Answer b. is correct. See calculations and explanations in Excel file.

28. Road-ahead Company has made marketing and cost studies to determine probable costs and benefits of a new all-weather tire. The data resulting from these studies are presented below:

New equipment to be invested:

Investment	€ 630,000
Useful life	10 years
Salvage value after 10 years	€ 30,000 (to be received by selling the equipment)

The new project requires additional working capital to finance inventories, debtors, and other cash needs at a level of € 120,000. The expected life cycle of the new tire is 10 years, after which the additional working capital will be released.

The expected net cash inflow (outflow) from operations is estimated as follows:

Year 1	-- € 300,000 (negative)
Year 2	-- € 180,000 (negative)
Year 3	-- € 20,000 (negative)
Year 4 – 10	+ € 400,000 each year

Using a discount rate of 12%, the net present value of the new investment is closest to:

- a. € 133,260
- b. € 162,240
- c. € 171,900
- d. € 801,900

Answer c. is correct. See calculations and explanations in Excel file.

29. The controller of Chocolate Company has received the following data on a proposed investment project to produce and sell a new taste of chocolate:

Annual cash inflows	€ 40,000
Salvage value	€ 0
Life of the investment	7 years
The net present value of the investment	€ 17,560
Required rate of return	16%

The controller is not only interested in the required rate of return, but she is also curious what is the internal rate of return on the investment (closest to)?

- a. 13 %
- b. 16 %
- c. 18 %
- d. 20 %

Answer d. is correct. See calculations and explanations in Excel file.

30. To evaluate a new project, the simple rate of return focuses on

- a. profit
- b. cash flows
- c. discounted cash flows
- d. the length of time that it takes for the new project to recoup its initial cost out of the cash receipts that it generates

Answer a. is correct. The simple rate of return focuses on changes in costs and revenues (if any).

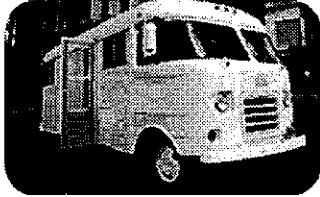
31. Which of the following techniques/approaches focuses on cutting stock to improve business processes?

- a. total quality management
- b. the theory of constraints
- c. just-in-time management
- d. six sigma

Answer c. is correct. All the above mentioned techniques/approaches try to improve business processes, also where stock is involved, but just-in-time management makes it to its centre piece.

**READ THE CASE DESCRIPTION BELOW**  
**READ THE CASE DESCRIPTION BELOW**

Ilse decides to begin a small business SmoothieShakyBUSJE at Zernike campus that would serve two product groups: freshly made organic fruit shakes and yoghurt smoothies. She wants to sell these products to university and Hanze students as well as the visitors of the campus. She has now a small job at V&D and learned a lot about making and selling fruit shakes and smoothies. She works there for 10 hours a week and receives a salary of € 430 per month. When her business starts in February, she will not be able to work there anymore.



Ilse will lease the specially equipped mobile juice car from her friend Jesse, who is a hobby-car-builder and just completed the conversion of a 1969 Dodge Chinook into a mobile juice bar. The lease price is € 395 per month. She only has to have it painted in her brand colors, her brother can do it for € 250. Her mobile juice car requires electricity power for operating the juice squeezing machines. She purchased three high-power batteries € 150 each operating for 4 hours after full-charged. The costs of the batteries and the costs of painting the bus are treated as an investment and subject to linear depreciation during three years, with zero salvage value. CareersCompany at FEB supports student's initiatives and allows Ilse to plug in to charge all three the batteries unlimited each night at FEB free of charge for the first year of her business.

Ilse decides to budget and pay herself salary of € 500 per month to be able to cover her expenses. Half of her time she will spend on preparing & selling shakes and smoothies (Mondays) and on driving twice a week with her mobile juice car to the Vismarket in Groningen to purchase fresh organic fruits and yoghurt for her shakes and smoothies. These two product groups require specific ingredients. She budgets to spend € 200 on these ingredients each time she makes purchases in the market, to be able to make 720 different shakes and smoothies per month. For the rest of her time (the other 50%), she will do some promotional activities and all other needed administrative work. She will hire two friends, each for one day per week, so the juice car can be operating three days a week on Monday, Tuesday and Thursday. Each of her friends will be receiving some small salary of € 180 per month and a 3% of the turnover as a compensation. They all three followed a certified hygienic standards course and acquired health license to work with food for one year. Ilse paid all the costs at € 120 per person. If she were starting the business she would have put this money on a savings account. The month February has four weeks and Ilse expects to sell 720 shakes and smoothies in this period at a promotional equal price for all products of € 5.10 per unit. The SmoothieShakyBUSJE will sell yoghurt fruit smoothies in the morning and fruit and vegetable shakes in the afternoon. She plans to adjust prices of the two different product groups later after she has explored the market needs.

Answer questions 32-36 using the information from the case above:

32. Ilse's V&D salary of €430 net per month is in this case:

- a. Variable cost
- b. Direct cost
- c. Sunk cost
- d. Opportunity cost

Answer d is correct: She will have to quit her job to be able to run the business, this is opportunity cost as this the cost of lost or not given up initiative.

33. Total indirect costs in February will be:

- a. € 694.44
- b. € 1,461.94
- c. € 651.94
- d. € 1,101.44

Answer a is correct: see excel file for complete overview of the costs; in general, the lease of the mobile juice car, , half of the salary of Ilse and the 1/12 cost of the courses they followed (period cost) and depreciation of the batteries, 3 units a150 for three years and then for one month = $3*150/3/12$  plus depreciation of the painting costs =  $250/3/12 = 6.94$

34. At sales volume 720 units, Ilse's total fixed costs are € 1,304.44 and variable costs are € 1,820.32. The relevant range is 600 to 850 units. If Ilse were to sell 800 smoothies & shakes, the total expected cost would be
- € 3,472.00
  - € 3,124.76
  - € 3,328.44
  - € 3,269.70

Answer c is correct: see excel file; the total fixed costs are at volume 720 = 1304.44; 800 units is within the relevant range so the same amount is taken en then the variable cost is added  $1,820.32/720=2.53$  therefore  $1,304.44 + 2.53 \times 800 = 3587.50$

35. The cost of the certified hygienic standards course and acquired health license to work with food for one year at € 120 per person is in this case:
- Variable cost
  - Direct cost
  - Sunk cost
  - Opportunity cost

Answer c: She paid it already before starting her business it refers to the past therefore it is not a differential costs in this initiative but sunk cost

36. Ilse's friends' salaries of € 180 per person per month are in this case:
- Indirect cost
  - Mixed cost
  - Overhead cost
  - Fixed cost

Answer d: the salary of her employee is direct fixed cost

*The end of the questions refereeing to the Ilse's case.*

37. Which of the following would be considered an operating asset in return on investment computations?
- mobile juice car
  - technology under development
  - accounts payable
  - long-term debt

Answer a is correct: A and B are assets, but b is not operating yet, see MC questions werkcollege 6 429 ch 12

38. In Play Games company during November, the cost of goods manufactured was € 125,000. The beginning finished goods inventory was € 75,000 and the ending finished goods inventory was € 3,700. What was the cost of goods sold for the month?

- a. € 78,700
- b. € 200,000
- c. € 196,300
- d. € 121,300

Answer c is correct: see excel file

39. If the manufacturing cycle efficiency (MCE) is 0.8 this means

- a. 80% of time a unit is in process is spent on non-value-added activities
- b. 20% of time a unit is in process is spent on value-added activities
- c. The company is operating inefficiently
- d. 80% of time a unit is in process is spent on value-added activities

Answer d is correct: the max value for MCE is 1 then the total processing time equals the time committed to value added activities see page 270 in the book

See the 2012 incomplete segment report for AgroBusiness Holding with three business units:

BUSINESS UNITS	AGRO	TERMO	FIXED
Sales	€ 750,000	€ 450,000	
Net operating profit	€ 34,000	€ 57,000	
Average operating assets	€ 250,000		€ 600,000
Margin			7 %
Turnover			2
ROI		13.00%	

AgroBusiness company's wide cost of capital is 13%

Answer the questions 40 and 41 referring to the AgroBusiness holding:

40. ROI for AGRO business unit is:

- a. 4.53 %
- b. 3.00 %
- c. 13.6 %
- d. 22.06 %

Answer c is correct: see the excel file

41. Which statement represents the correct interpretation of AgroBusiness' segment performance report?

- a. Business unit AGRO knows the best to make use of their assets.
- b. Business unit TERMO knows the best to make use of their assets.
- c. Business unit FIXED deserves a bonus for its best performing return on sales.
- d. All three business units performed below the target.

Answer a is correct: see excel file for data and explanation

See the following ZEBRA project data:

Sales of the new product in units	8,640
Selling price of the new product	€ 5.50
Estimated variable cost per unit	€ 2.55
Increase in fixed costs by	€ 15,160
Investment budget agreed	€ 7,500
Minimum required return is 12%	

42. What is the residual income of this investment?

- a. €47,520.00
- b. €22,051.20
- c. € 9,408.80
- d. €17,808.80

Answer c: See excel file calculations

43. The number of claims from customers handled within the target time is an example of a performance measure in the following dimension in Balanced Scorecard (BSC):

- a. Financial perspective
- b. Customer perspective
- c. Internal business process perspective
- d. Learning and growth perspective

Answer c is correct : the target time for handling claims has to do with the efficiency of internal processes that is why it would be best suited there

44. Registered above-industry-average employee turnover in a company using BSC

- a. shows bad financial performance.
- b. positively contributes to financial performance.
- c. negatively affects future financial performance.
- d. shows good performance in learning and growth perspective.

Answer c is correct: An employee turnover is the ratio of the number of workers that have replaced in a given time period to the average number of workers, if it is higher than the benchmark (here industry average) than it shows current bad performance in learning and growth perspective, the financial consequences of this will be visible in next period, assuming the causality between 4 dimensions in the BSC: Learning&Growth →internal processes→customer perspective →financial perspective

45. ROI is an example of a performance measure in the following dimension of BSC

- a. Financial perspective
- b. Customer perspective
- c. Internal business process perspective
- d. Learning and growth perspective

Answer a is correct: simple question most for the financial indicators are collected in the financial perspective of the BSC