TAC

For the USCMA Exam

USCMA

USCMA Basic



Ver.2 問題集

U.S. CMA

問題集

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※10 章、20 章の問題は掲載しておりません。
※21 章以降の問題は、テキスト Vol.3 にございます。

Certified Management Accountants

1. Product Costing（製品原価計算）

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【MEMO】

基 本 問 題 1

(1) Fab Co. manufactures textiles. Among Fab's Year 1 manufacturing costs were the following salaries and wages:

Loom operators	$120,000
Factory foremen	45,000
Machine mechanics	30,000

What was the amount of Fab's Year 1 direct labor?

a. $195,000 b. $165,000 c. $150,000 d. $120,000

(2) If a product required a great deal of electricity to produce, and crude oil prices increased, which of the following costs most likely increased?

a. Direct materials.
b. Direct labor.
c. Prime costs.
d. Conversion costs.

(3) Inventoriable costs:

a. Include only the prime costs of manufacturing a product.
b. Include only the conversion costs of manufacturing a product.
c. Are regarded as assets before the products are sold.
d. Exclude fixed factory overhead.

(4) In a traditional job order cost system, the issue of indirect materials to a production department increases:

a. Stores control.
b. Work in process control.
c. Factory overhead control.
d. Factory overhead applied.

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【解答と解説】

(1) **(d)** Product の生産それ自体に携わっている工員に支払われた賃金だけが direct labor costs となり、それ以外の工場従業員に支払われた賃金は indirect labor costs となります。Textiles（織物）を生産する工場では、 次のようになります。

Loom operators：織機を操作する人 → Direct labor $120,000
Factory foreman：工場を監督する人 → Indirect labor $45,000
Machine mechanics：機械整備士 → Indirect labor $30,000

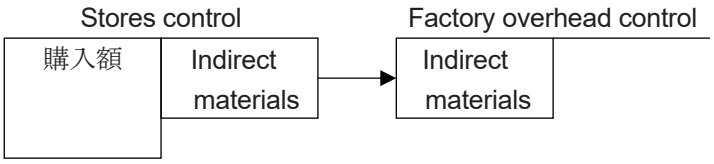
よって、direct labor は**$120,000**です。

(2) **(d)** Crude oil（原油）価格の上昇は発電コストの上昇につながり、電力コストは indirect expenses として扱われるので、conversion costs の増加につながります。

※ (1)と(2)は product costing の３つのステップのうちの〔ステップ1：cost accumulation〕に関する問題です。試験対策上の重要性は低いので、無視しても差し支えありません。

(3) **(c)** Inventoriable costs are assets until sold, when they become "cost of goods sold." すべての manufacturing costs が inventory に集計されるので、a.b.d.は誤りです。

(4) **(c)** 下図に示すように、the issue of indirect materials to a production department（indirect materials の製造部門への流出(＝出庫・消費)）は、stores control a/c を減少させ、factory overhead control a/c を増加させます。



（注）複数種類の materials を使用している場合、material a/c を material control（stores control）a/c とすることがあります。同様に複数種類の product を生産している場合、Work in process a/c を Work in process control a/c とすることがあります。

基 本 問 題 2

(1) The following is selected information from the records of Ray, Inc.:

Purchases of raw materials	$ 6,000
Raw materials, beginning	500
Raw materials, ending	800
Work-in-process, beginning	0
Work-in-process, ending	0
Cost of goods sold	12,000
Finished goods, beginning	1,200
Finished goods, ending	1,400

What is the total amount of conversion costs?

a. $5,500
b. $5,900
c. $6,100
d. $6,500

(2) What is the cost of ending inventory given the following factors?

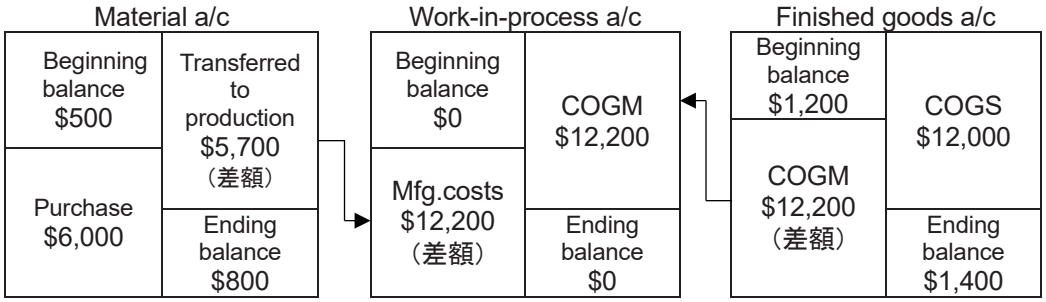
Beginning inventory	$5,000
Total production costs	60,000
Cost of goods sold	55,000
Direct labor	40,000

a. $5,000
b. $10,000
c. $45,000
d. $50,000

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【解答と解説】

(1) **(d)** 次の各 a/c に示すように、当月の direct material は$5,700、 manufactuing costs は$12,200です。



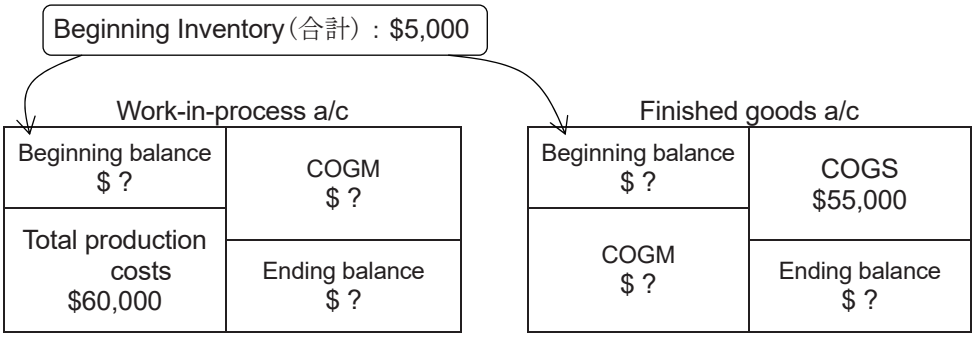
注）COGM：Cost of goods manufactured、COGS：Cost of goods sold

よって、当月の conversion costs は、以下のように$6,500となります。

Direct material： $5,700
Direct Labor
Factory overhead } Conversion costs： **$6,500** ← 差額

Manufacturing costs： $12,200

(2) **(b)** 問題文の資料をまとめると、以下のとおりです。



注）「Total production costs $60,000：direct material $?＋direct labor $40,000＋applied overhead $?」なので、direct labor$40,000は、total production costs に含まれています。

よって、当月の ending inventoy は、以下のように$10,000となります。

Beginning inventory $5,000＋Production costs $60,000
－Cost of good sold $55,000＝Ending inventory $**10,000**

基 本 問 題 3

(1) Costs are allocated to cost objectives in many ways and for many reasons. Which one of the following is a purpose of cost allocation?

a. Evaluating revenue center performance.
b. Measuring income and assets for external reporting.
c. Aiding in variable costing for internal reporting.
d. Implementing activity-based costing.

(2) Which one of the following alternatives correctly classifies the business application to the appropriate costing system?

	Job Costing System	*Process Costing System*
a.	Wallpaper manufacturer	Oil refinery
b.	Aircraft assembly	Public accounting firm
c.	Paint manufacturer	Retail banking
d.	Print shop manufacturer	Beverage drink

(3) The accountant for Champion Brake Inc. applies overhead based on machine hours. The budgeted overhead and machine hours for the year are $260,000 and 16,000, respectively. The actual overhead and machine hours incurred were $275,000 and 20,000. The cost of goods sold and inventory data compiled for the year is as follows:

Direct Materials	$ 50,000
COGS	450,000
WIP (units)	100,000
Finished Goods (units)	150,000

What is the amount of over/underapplied overhead for the year?

a. $15,000
b. $50,000
c. $65,000
d. $67,000

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【解答と解説】

(1) **(b)** Cost objectives に対して cost allocation を行う目的を問う問題で、USCMA 試験では難しい部類の問題です。

「b.外部報告のために利益と資産を測定すること」は cost allocation の重要な目的です。Manufacturing costs を各 product に対して集計しようとすると、複数の product に対して共通して発生する costs をいかに product に割り当てるかが問題となります。

Revenue center は収益に対して責任を負う管理者なので、「a. revenue center の業績を評価すること」は、cost allocation を行う目的ではありません（revenue center の業績評価は**第８章**で紹介します)。

Variable costing では fixed manufacturing costs を product に集計しないので、cost allocation の必要性は少なくなります。よって、「c.内部報告のために variable costing を支援すること」よりも b.の方が適切な解答と言えます（variable costing は**第４章**で紹介します)。

Activity-based costing では、因果関係に基づいて costs を各 product に跡付けようとするので、b.の方が適切な解答といえます（Activity-based costing は**第２章**で紹介します)。

(2) **(d)** **Job costing** is used in the production of tailor-made or unique goods, including:

Construction of buildings or ships, Aircraft assembly, Printing, Special-purpose machinery (microcomputer manufacturer), Public accounting firm, Management consulting firm, Repair shops, Industrial research projects

Process costing is used where the product is composed of mass produced homogeneous units such as:

Gasoline and oil, Chemicals, Steel, Textiles (wallpaper), Plastics, Paints, Flour, Meatpacking, Canneries, Rubber, Lumber, Food processing (beverage drink manufacturer), Glass, Mining, Cement, Check clearing in banks, Mail sorting in post offices, Food preparation in fast-food outlets, Premium handling in insurance companies

(3) **(b)** Predetermined rate は$16.25（＝budgeted overhead$260,000÷budgeted machine hour16,000時間）で、実際の machine hour は20,000時間なので、applied overhead は$325,000（＝$16.25×20,000時間）です。他方、実際の overhead は$275,000なので、**$50,000**の overapplied が生じていることになります。

基 本 問 題 4

Madtack Company's beginning and ending inventories for the month of November 1995 are:

	November 1	*November 30*
Direct materials	$ 67,000	$ 62,000
Work-in-process	145,000	171,000
Finished goods	85,000	78,000

Production data for the month of November follows.

Direct labor	$200,000
Actual factory overhead	132,000
Direct materials purchased	163,000
Transportation in	4,000
Purchase returns and allowances	2,000

Madtack uses one factory overhead control account and charges factory overhead to production at 70 percent of direct labor cost. The company does not formally recognize over/underapplied overhead until year-end.

(1) Madtack Company's prime cost for November is:

a. $370,000 b. $363,000 c. $170,000 d. $368,000

(2) Madtack Company's total manufacturing cost for November is:

a. $502,000 b. $503,000 c. $495,000 d. $510,000

(3) Madtack Company's cost of goods transferred to finished goods inventory for November is:

a. $469,000 b. $495,000 c. $484,000 d. $476,000

(4) Madtack Company's cost of goods sold for November is:

a. $484,000 b. $491,000 c. $502,000 d. $476,000

(5) Madtack Company's net charge to factory overhead control for the month of November is:

a. $8,000 debit, overapplied.
b. $8,000 debit, underapplied.
c. $8,000 credit, overapplied.
d. $8,000 credit, underapplied.

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【解答と解説】

(1) **(a)** 以下に示すように、11月の Direct materials は$170,000です。

Material a/c

Beginning balance $67,000	Direct materials $170,000 (差額)
Purchase $163,000 ＋$4,000 △$2,000	Ending balance $62,000

よって、prime costs は**$370,000**（＝Direct materials$170,000＋Direct labor$200,000）となります。

(2) **(d)** 以下に示すように、11月の Total manufacturing costs は$510,000です。

Direct material：	$ 170,000
Direct labor：	200,000
Factory overhead：Direct labor $200,000×70%＝	140,000
TOTAL	**$ 510,000**

(3) **(c)** 以下に示すように、11月の cost of goods transferred to finished goods inventory（＝COGM）は$484,000です。

Work-in-process a/c

Beginning balance $145,000	COGM **$484,000** (差額)
Mfg. costs $510,000	Ending balance $171,000

(4) **(b)** 以下に示すように、11月の Cost of goods sold は$491,000です。

Finished goods a/c

Beginning balance $85,000	COGS **$491,000** (差額)
COGM $484,000	Ending balance $78,000

(5) **(c)** 以下に示すように、11月の net charge to factory overhead control（overhead の配賦差異）は$8,000 overapplied です。

Overhead control a/c

Beginning balance $?	WIP $140,000
Actual $132,000	Ending balance $?

$8,000 overapplied

基 本 問 題 5

(1) Under Pick Co.'s job order costing system manufacturing overhead is applied to work in process using a predetermined annual overhead rate. During January Year 1, Pick's transactions included the following:

Direct materials issued to production	$90,000
Indirect materials issued to production	8,000
Manufacturing overhead incurred	125,000
Manufacturing overhead applied	113,000
Direct labor costs	107,000

Pick had neither beginning nor ending work-in-process inventory. What was the cost of jobs completed in January Year 1?

a. $302,000 b. $310,000 c. $322,000 d. $330,000

(2) On January 1 Maples had two jobs in process: #506 with assigned costs of $10,500 and #507 with assigned costs of $14,250. During January three new jobs, #508 through #510, were started and three jobs, #506, #507, and #508, were completed. Materials and labor costs added during January were as follows:

Job number	*Materials*	*Labor*
506	$ 0	$ 2,000
507	0	1,500
508	4,000	3,600
509	3,800	2,000
510	2,600	3,100

Manufacturing overhead is assigned at the rate of 200 percent of labor. What is the January cost of goods manufactured and transferred from work-in-process?

a. $25,300 b. $35,850 c. $42,950 d. $50,050

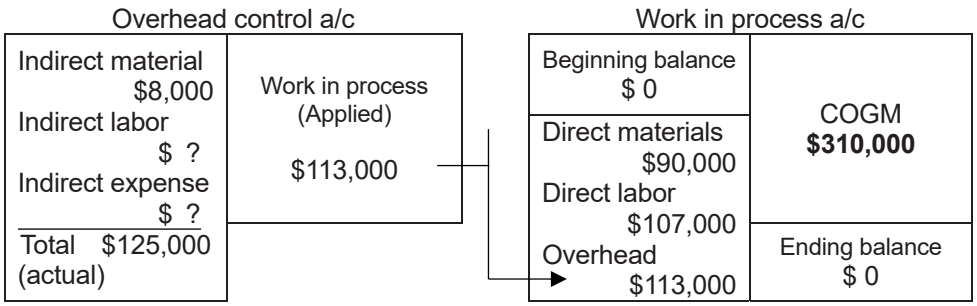
(3) Which of the following would cause overhead to be overapplied?

a. Actual overhead is greater than overhead applied.
b. Actual overhead is less than overhead applied.
c. Actual overhead was equal to the budgeted amount but fewer items were manufactured.
d. The number of units produced was the budgeted amount but a larger amount of overhead was actually incurred.

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【解答と解説】

(1) **(b)** 以下に示すように、the cost of jobs completed（＝COGM）は$310,000です。



(2) **(d)** １月に完成した３つの job order（＃506、＃507、＃508）の costs の合計が costs of goods manufactured となります。

	＃506	＃507	＃508
Beginning WIP	$10,500	$14,250	—
Direct Materials	—	—	$ 4,000
Direct labor	$2,000	$1,500	$3,600
Overhead	$4,000	$3,000	$7,200
Total	16,500	18,750	14,800

← Direct labor の200%

$50,050

(3) **(b)** Overapplied overhead が発生するのは「Actual ＜ Applied」となったときなので、b.は正しく、a.は誤りです。

また、c.と d.はいずれも underapplied overhead が生じる原因となります（以下の説明には、**第３章**で学習する内容を含んでいます)。

c.（actual overhead は予算と同額であったが、(計画)より少ない品目しか生産しなかった）の場合、unfavorable な production volume variance が発生するので誤りです。また、d.（生産数量は予算と同量であったが、より多額の overhead が実際には発生した）の場合、unfavorable な spending variance が発生するので誤りです。

基 本 問 題 6

Kimbeth Manufacturing uses a process cost system to manufacture Dust Density Sensors for the mining industry. The following information pertains to operations for the month of May:

	Units
Beginning work-in-process inventory, May 1	16,000
Started in production during May	100,000
Completed production during May	92,000
Ending work-in-process inventory, May 31	24,000

The beginning inventory was 60 percent complete for materials and 20 percent complete for conversion costs. The ending inventory was 90 percent complete for materials and 40 percent complete for conversion costs.

Costs pertaining to the month of May are as follows:

- Beginning inventory costs are: materials, $54,560; direct labor $20,320; and factory overhead, $15,240.
- Costs incurred during May are: materials used, $468,000; direct labor, $182,880; and factory overhead, $391,160.

(1) Using the FIFO method, the equivalent unit cost of materials for May is:
a. $4.50 b. $4.60 c. $4.80 d. $5.46

(2) Using the FIFO method, the equivalent unit conversion cost for May is:
a. $5.65 b. $5.83 c. $6.00 d. $6.20

(3) Using the FIFO method, the total cost of units in the ending work-in-process inventory at May 31 is:
a. $153,168 b. $154,800 c. $155,328 d. $156,960

(4) Using the weighted-average method, the equivalent unit cost of materials for May is:
a. $4.50 b. $4.60 c. $5.03 d. $5.46

(5) Using the weighted-average method, the equivalent unit conversion cost for May is:
a. $5.65 b. $5.83 c. $6.00 d. $6.41

(6) Using the weighted-average method, the total cost of the units in the ending work-in-process inventory at May 31 is:
a. $153,960 b. $154,800 c. $155,328 d. $156,960

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【解答と解説】

(1) **(a)** 以下に示すように、the equivalent unit cost of materials は@$4.50です。

Direct Materials

Beg. WIP 16,000nits×60% $54,560	Finished goods 92,000units
Equivalent unit 104,000units $468,000÷104,000units **＝@$4.50**	End. WIP 24,000units×90% @4.50×21,600units＝$97,200

(2) **(b)** 以下に示すように、the equivalent unit conversion cost は@$5.83です。

Conversion cost

Beg. WIP 16,000nits×20% $35,560★	Finished goods 92,000units
Equivalent unit 98,400units $574,040☆÷98,400units **≒@$5.83**	End. WIP 24,000units×40% @5.83×9,600units＝$55,968

★ Direct labor$20,320＋Factory overhead$15,240

☆ Direct labor$182,880＋Factory overhead$391,160

(3) **(a)** (1)と(2)より、the total cost of units in the ending work-in-process は**$153,168**（＝Direct materials$97,200＋Conversion cost$55,968）です。

(4) **(b)** 以下に示すように、the equivalent unit cost of materials は@$4.60です。

Direct Materials

Equivalent unit 113,600units $522,560★÷113,600units **＝@$4.60**	Finished goods 92,000units
	End. WIP 24,000units×90% @4.60×21,600units＝$99,360

★ Beginning$54,560＋Incurred during May$468,000

(5) **(c)** 以下に示すように、the equivalent unit conversion cost は@$6.00です。

Conversion cost

Equivalent unit 101,600units $609,600★÷101,600units **＝@$6.00**	Finished goods 92,000units
	End. WIP 24,000units×40% @6.00×9,600units＝$57,600

★ Beginning$35,560＋Incurred during May$574,040

(6) **(d)** (4)と(5)より、the total cost of units in the ending work-in-process は**$156,960**（＝Direct materials$99,360＋Conversion cost$57,600）です。

基 本 問 題 7

(1) In its April Year 1 production, Hern Corp., which does not use a standard cost system, incurred total production costs of $900,000, of which Hern attributed $60,000 to normal spoilage and $30,000 to abnormal spoilage. Hern should account for this spoilage as:

a. Period cost of $90,000.
b. Inventoriable cost of $90,000.
c. Period cost of $60,000 and inventoriable cost of $30,000.
d. Inventoriable cost of $60,000 and period cost of $30,000.

(2) During May, Mercer Company completed 50,000 units costing $600,000, exclusive of spoilage allocation. Of these completed units, 25,000 were sold during the month. An additional 10,000 units, costing $80,000, were 50 percent complete at May 31. All units are inspected between the completion of manufacturing and transfer to finished goods inventory. Normal spoilage for the month was $20,000, and abnormal spoilage of $50,000 was also incurred during the month.
The portion of total spoilage that should be charged against revenue in May is:

a. $50,000
b. $20,000
c. $70,000
d. $60,000

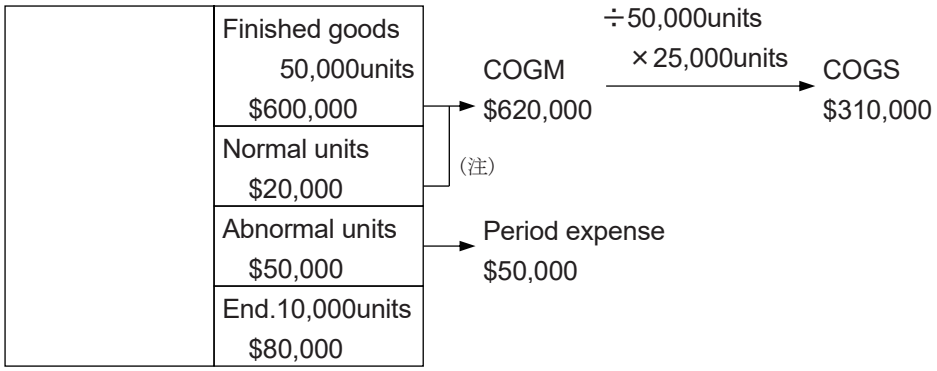
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【解答と解説】

（1）**(d)** Normal spoilage is considered a necessary cost of production and is a product (inventoriable) cost.　Abnormal spoilage is considered unnecessary and is a period cost.

Normal spoilage に集計された$60,000は product (inventoriable) cost として処理し、abnormal spoilage に集計された$30,000は period expense として処理します（なお、問題文に出てくる standard cost system は、**第３章**で紹介します）。

（2）**(d)** Costs を配分した結果は、次のとおりです。



以上より、the portion of total spoilage that should be charged against revenue（income statement の expense となる spoilage の金額）は、normal spoilage $20,000の半分と abnormal spoilage$50,000の全額で、あわせて$60,000となります。

（注）問題文では、「All units are inspected between the completion of manufacturing and transfer to finished goods inventory.製造が完了して完成品（倉庫）に移す間に全量が検査される」とあるので、spoilage はすべて完成品の生産から生じていることになります。よって、normal spoilage costs の全額を完成品に負担させます。

Certified Management Accountants

2. Cost Allocation（原価配賦）

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【MEMO】

基 本 問 題 1

(1) Generally, individual departmental rates rather than a plant-wide rate for applying overhead would be used if:

a. A company's manufacturing operations are all highly automated.
b. A company's manufacturing operations are basically labor based.
c. Manufacturing overhead is the largest cost component of its product cost.
d. The manufactured products differ in the resources consumed from the individual departments in the plant.

(2) Multiple or departmental overhead rates are considered preferable to a single or plant-wide overhead rate when:

a. Various products are manufactured that do not pass through the same departments or use the same manufacturing techniques.
b. Cost drivers, such as direct labor, are the same over all processes.
c. Individual cost drivers cannot accurately be determined with respect to cause-and-effect relationships.
d. The single or plant-wide rate is related to several identified cost drivers.

(3) In allocating factory service department costs to producing departments, which one of the following items would most likely be used as an activity base?

a. Units of product sold.
b. Salary of service department employees.
c. Units of electrical power consumed.
d. Direct materials usage.

(4) Smile Labs develops 35mm film using a four-step process that moves progressively through four departments. The company specializes in overnight service and has the largest drug store chain as its primary customer. Currently, direct labor, direct materials, and overhead are accumulated by department. The cost accumulation system that best describes the system Smile Labs is using is:

a. Operation costing.
b. Activity-based costing.
c. Job order costing.
d. Process costing.

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【解答と解説】

(1) **(d)** Overhead の application に、plant-wide rate よりも(individual)departmental rates が用いられる状況を問うています。
複数種類の product を生産する場合、通常、それらは同じ種類の資源を同じ量だけ消費する訳ではありません（資源消費のパターンは一様ではありません)。このような場合に各 product の costs を正しく計算するには、各 product がどの資源をどれだけ消費したかに基づいてその costs を計算する必要があります。
「生産された製品が、工場内の個々の department で消費される資源において異なる」場合に、plant-wide rate を用いてしまうと、各 product の資源の消費パターンの違いが計算に反映されないので、departmental rate を用いる方が良いと言えます。
c.の判断は少し迷うところです。Product costs に占める overhead の構成割合が大きい場合、その計算が正確か否かは最終的な計算結果に大きく影響するので、departmental rate を用いて正確に計算すべきと言えそうですが、overhead の構成割合が大きくても、各 product の資源消費のパターンが同じなら、departmental rate を用いる必要はないので、d.の方がより良い解答でしょう。
なお、a.と b.は departmental か plant-wide かの選択と関係ありません。

(2) **(a)** 「多様な product が同じ department を通過せずに生産される、もしくは同じ生産技術を用いないで生産される」場合には、product ごとに異なる資源消費のパターンを計算に反映させるべく、departmental rate を用いるのが望ましいと言えます（ちなみに ABC を利用する方が、より望ましい)。
b.や d.の場合には、plant-wide rate で十分正確に計算できるので誤りです。また、c.の場合には plant-wide rate でも departmental rate でも不正確な計算とならざるを得ないので、departmental rate を採用する意味もありません。

(3) **(c)** Service department costs（ここでは power department を想定しています）を producing departments へ配賦するための基準は、電力消費量です。

(4) **(d)** Process costing ではすべての manufacturing costs を department に集計するので、問題文の「direct labor, direct materials, and overhead are accumulated by department.」より、process costing と判断されます。なお、Job costing では overhead だけを、operation costing では conversion costs だけを department に集計します。また、ABC は department ではなく activity に costs を集計します。

基 本 問 題 2

(1) The New Wave Co. is considering a new method for allocating overhead to its two products, regular and premium coffee beans. Currently New Wave is using the traditional method to allocate overhead, in which the cost driver is direct labor costs. However, it is interested in using two different drivers: machine hours (MH) for separating and roasting beans, and pounds of coffee for packing and shipping. Machine hours for the current month are 700 hours, direct labor cost per pound of coffee is $1.25, and direct materials cost per pound of coffee is $1.50. There are 1,000 pounds of coffee packed and shipped for the current month. The following data are also available:

		Regular	*Premium*
Overhead for the current month	$5,000.00		
Cost pool for separating and roasting beans	3,500.00	150 MH	550 MH
Cost pool for packing and shipping	1,500.00	500 pounds	500 pounds

What is the total cost per pound for the premium coffee using the new activity-based costing method?

a. $5.00
b. $5.75
c. $7.75
d. $9.75

(2) What is the normal effect on the numbers of cost pools and allocation bases when an activity-based cost (ABC) system replaces a traditional cost system?

	Cost pools	*Allocation bases*
a.	No effect	No effect
b.	Increase	No effect
c.	No effect	Increase
d.	Increase	Increase

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【解答と解説】

(1) **(d)** 以下に示すように、ABC を用いて total cost per pound for the premium coffee を計算すると、$9.75となります。

Separating and roasting	
($3,500÷700MH×550MH)÷500pounds ＝	$ 5.50
Packing and shipping	
($1,500÷1,000pounds×500pounds)÷500pounds ＝	1.50
Direct Labor（問題文より）	1.25
Direct Materials（問題文より）	1.50
Total cost per pound for premium coffee	**$9.75**

(2) **(d)** Activity-based costing (ABC) tends to increase both the number of cost pools and the number of allocation bases. ABC breaks down a production process into many activities. It then accumulates costs by activity (i.e., cost pools) using an appropriate allocation base for each activity.

ABC は、department 内／間で行われる各 activity を cost pool として、それぞれに適切な allocation base を用いるので、traditional costing よりも、cost pool・allocation base ともに増加します。

基 本 問 題 3

(1) The costing method that is properly classified for both external and internal reporting purposes is:

		External Reporting	*Internal Reporting*
a.	Activity-based costing.	No	Yes
b.	Job costing.	No	Yes
c.	Variable costing.	Yes	No
d.	Process costing.	No	Yes

(2) Activity based costing refines product cost information because the cost system:

a. Was designed to value inventory in the aggregate and not relate to product cost information.
b. Uses a common departmental or factory wide measure of activity, such as direct labor hours or dollars to distribute manufacturing overhead to products.
c. Emphasizes long-term product analysis (when fixed costs become variable costs).
d. Causes managers, who are aware of distortions in the traditional cost system, to make intuitive, imprecise adjustments to the traditional cost information without understanding the complete impact.

(3) In an activity-based costing system, what should be used to assign a department's manufacturing overhead costs to products produced in varying lot sizes?

a. A single cause and effect relationship.
b. Multiple cause and effect relationships.
c. Relative net sales values of the products.
d. A product's ability to bear cost allocations.

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【解答と解説】

(1) **(a)** Activity-based costing uses cause and effect relationships to capitalize costs to inventory. This is not acceptable for external reporting and useful for internal reporting to management.

なお、各計算方法の正しい用途は、次のとおりです。

		External Reporting	*Internal Reporting*
a.	Activity-based costing.	No	Yes
b.	Job costing.	~~No~~→Yes	Yes
c.	Variable costing.	~~Yes~~→No	~~No~~→Yes
d.	Process costing.	~~No~~→Yes	Yes

※ Internal reporting は、会社内部の manager に対する会計情報の提供であり、会社は、どの計算方法を用いるかを自由に決めることができます。

(2) **(c)** Activity-based costing refines product cost information because the cost system emphasizes long-term product analysis (when fixed costs become variable costs).

a.（総計で在庫を評価するように設計されており製品原価情報と関係しない）と d.（traditional cost system の歪みを認識している manager に、その完全な影響を理解することなく traditional cost information に直感的で不正確な調整をさせる）は、文意から明らかに誤っています。また b.が traditional cost system に関する説明であることも明らかでしょう。

(3) **(b)** 様々な lot size で product が生産されている場合、少なくとも unit-level activity と batch-level activity が行われているため、複数の因果関係（量と回数）を用いて overhead の配賦を行うべきです。

基 本 問 題 4

(1) Because of changes that are occurring in the basic operations of many firms, all of the following represent trends in the way indirect costs are allocated, **except**:

a. Using throughput time as an application base to increase awareness of the costs associated with lengthened throughput time.
b. Preferring plant-wide application rates that are applied to machine hours rather than incurring the cost of detailed allocations.
c. Using several machine cost pools to measure product costs on the basis of time in a machine center.
d. Using cost drivers as application bases to increase the accuracy of reported product costs.

(2) An accounting system that collects financial and operating data on the basis of the underlying nature and extent of the cost drivers is:

a. Direct costing.
b. Activity-based costing.
c. Target costing.
d. Variable costing.

(3) Limitations of an activity-based costing system include which of the following?

a. Control of overhead costs is enhanced.
b. Activity-based costing systems are **less** reliable.
c. The expense of obtaining cost data is relatively high.
d. It eliminates arbitrary assignment of overhead costs.

(4) Which of the following nonvalue-added costs associated with manufactured work in process inventory is most significant?

a. The cost of materials that **cannot** be traced to any individual product.
b. The cost of labor that **cannot** be traced to any individual product.
c. The cost of moving, handling, and storing any individual product.
d. The cost of additional resources consumed to produce any individual product.

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【解答と解説】

(1) **(b)** Choice "b" is correct. Plant-wide application rates applied to machine hours is a traditional costing approach. More detailed cost allocations are now preferred. Choices "a", "c", and "d" are incorrect. These are all trends in the revolution occurring in cost accounting (in the manufacturing environment).

b.が Traditional costing approach に関する説明であることは明らかでしょう。

(2) **(b)** 題意の計算方法は、ABC です。
なお、a. Direct costing と d. Variable costing（この２つは同じ計算方法です）は**第４章**で、c. Target costing は**第10章**で紹介します。

(3) **(c)** ABC を採用すると、traditional costing よりも cost pool と allocation base の数が増加するため、c.（cost data を入手する費用が相対的に高い）が正解です。a.（overhead costs の管理が増進される）や d.（overhead costs の恣意的な配賦が取り除かれる）は ABC の利点です。また、b.（ABC は信頼性が低い）が間違いであることは明らかでしょう。

(4) **(c)** Work in process の生産に関連する nonvalue-adding costs（activities）を問う問題です。
ものを移動する、保管するといった活動は nonvalue-adding activities の代表例です。なお、a.と b.は単に indirect materials と indirect labor costs の定義にすぎません。また、d.は direct costs もしくは variable costs を指していると思われます。

基 本 問 題 5

Sonimad Sawmill manufactures two lumber products from a joint milling process. The two products developed are mine support braces (MSB) and unseasoned commercial building lumber (CBL). A standard production run incurs joint costs of $300,000 and results in 60,000 units of MSB and 90,000 units of CBL. Each MSB sells for $2 per unit, each CBL sells for $4 per unit.

(1) Assuming no further processing work is done after the split-off point, the amount of joint cost allocated to CBL on a physical quantity allocation basis would be:

a. $75,000
b. $180,000
c. $225,000
d. $120,000

(2) If there are no further processing costs incurred after the split-off point, the amount of joint cost allocated to the MSB on a relative sales value basis would be:

a. $75,000
b. $180,000
c. $225,000
d. $120,000

(3) Continuing with the previous data, assume the CBL is not marketable at split-off but must be further planed and sized at a cost of $200,000 per production run. During this process, 10,000 units are unavoidably lost; these spoiled units have no discernable value. The remaining units of CBL are saleable at $10.00 per unit. The MSB, although saleable immediately at the split-off point, are coated with a tar-like preservative that costs $100,000 per production run. The MSB are then sold for $5 each.
Using the net realizable value (NRV) basis, the completed cost assigned to each unit of CBL would be:

a. $2.92
b. $5.625
c. $5.3125
d. Some amount other than those given above.

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【解答と解説】

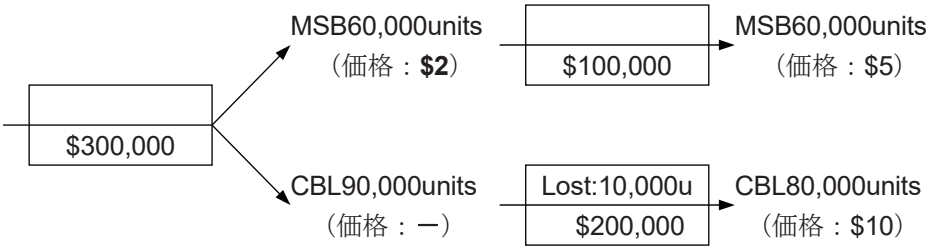
(1) **(b)** Physical quantity に基づいて joint costs $300,000を配分すると、CBL には$180,000が配分されます。

$$\$300,000\times\frac{\text{CBL 90,000 units}}{\text{MSB 60,000units}+\text{CBL 90,000units}}=\mathbf{\$180,000}$$

(2) **(a)** Relative sales value に基づいて joint costs $300,000を配分すると、MSB には$75,000が配分されます。

$$\$300,000\times\frac{\text{MSB (\$2}\times\text{60,000units)}}{\text{MSB (\$2}\times\text{60,000units)}+\text{CBL(\$4}\times\text{90,000 units)}}=\mathbf{\$75,000}$$

(3) **(b)** 最初に、状況を整理してみます。



上図で示したように、CBL は分離点での販売価格がないので NRV を用いて、MSB は分離点での販売価格があるので分離時点での sales value を用いて joint costs を按分します。

$$\$300,000\times\frac{\text{CBL(\$10}\times\text{80,000 units}-\$200,000)}{\text{MSB (\$2}\times\text{60,000units)}+\text{CBL(\$10}\times\text{80,000 units}-\$200,000)}$$

＝$250,000

よって、CBL の完成品 1 units あたりの costs は$5.625となります。

$$\frac{\text{Joint costs \$250,000}+\text{Separable costs\$200,000}}{\text{80,000units}}=\mathbf{\$5.625}$$

基 本 問 題 6

(1) Which of the following is not a basic approach to allocating costs for costing inventory in joint-cost situations?

a. Sales value at split-off.
b. Flexible budget amounts.
c. Physical measures such as weights or volume.
d. Constant gross margin percentage net realizable value method.

(2) Kode Co. manufactures a major product that gives rise to a by-product called May. May's only separable cost is a $1 selling cost when a unit is sold for $4. Kode accounts for May's sales by deducting the $3 net amount from the cost of goods sold of the major product. There are no inventories. If Kode were to change its method of accounting for May from a by-product to a joint product, what would be the effect on Kode's overall gross margin?

a. No effect.
b. Gross margin increases by $1 for each unit of May sold.
c. Gross margin increases by $3 for each unit of May sold.
d. Gross margin increases by $4 for each unit of May sold.

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【解答と解説】

(1) **(b)** Joint costs 按分の基礎とならないものは、flexible budget amount（**第 7 章**で紹介します）です。

(2) **(b)** May という product の計算上の扱いを by-product から main product に変更した場合の、gross margin に与える影響を問う問題です。

・By-product とする場合

問題文に「Kode accounts for May's sales by deducting the $3 net amount from the cost of goods sold of the major product.」とあるように、$3が COGS のマイナスとして処理されています。

・Main product とする場合

通常どおり、$4を sales として、$1を selling costs として処理します。

	変更前		変更後
Sales	—		$4
COGS	△$3		—
Gross margin	$3	→	$4
S,G&A	—		$1
Operating income	$3		$3

以上より、この変更によって gross margin が units 当たり**$1**増加します。