AICPA Released Questions from the 2021 Uniform CPA Exam

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BUSINESS ENVIRONMENT & CONCEPTS

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2021 AICPA Released Questions for BEC

The Key gives the correct letter answer for each question.

Key: A

The numbering system indicates the AICPA Blueprint Representative Task and Skill Level for each question.

BEC.CSO.20190701: BEC.001.001.002

BEC.SSO.20190701: Remembering and Understanding:1

MULTIPLE CHOICE - MODERATE

The fraud triangle includes each of the following, **except**

A. Incentive.

B. Collusion.

C. Opportunity.

D. Rationalization.

Management, internal, and external auditors are responsible for detecting material misstatements due to error and fraud. Errors are unintentional mistakes, misjudgments, or omissions of amounts or disclosures. In contrast, fraud is an intentional act by one or more parties involving the use of deception that results in a misstatement in the financial statements.

Although management and auditors cannot be expected to detect all instances of fraud, they must be able to recognize the conditions that are generally present when fraud occurs (referred to as the fraud triangle). These are:

- Incentive (motivation/pressure): the reason (eg, personal gain) the fraud was committed.
- Opportunity: the conditions (eg, weak controls) that allow fraud to occur.
- Rationalization: the perpetrator's justification for committing fraud.

Collusion is a secret or illegal agreement between two or more people designed to cheat or deceive others. For example, the inventory clerk in the accounting department and the warehouse manager work together to steal inventory and cover up the theft.

Item ID: 35485
Key: B
BEC.CSO.20190701: BEC.001.001.002
BEC.SSO.20190701: Remembering and Understanding:1

According to COSO, which of the following issues should lead to the greatest concern regarding the effectiveness of an entity's internal control?

A. Monitoring internal control in areas that have **never** had a control failure.

B. Errors from control failures that were **not** detected timely by the routine monitoring procedures.

C. Unwarranted duplication of efforts when multiple people monitor the same control.

D. Additional evaluations solely to meet regulatory requirements when elements of other procedures would be sufficient.

The COSO internal control framework is the most commonly used internal control (I/C) framework in the U.S. The framework consists of five components, one of which is monitoring. **Monitoring** encompasses two principles:

- Conduct ongoing and/or separate **evaluations** to determine if I/C components are operating effectively.
- Evaluate and **communicate** I/C deficiencies to parties responsible (eg, board of directors) for taking corrective action.

The scope of monitoring would include all critical operating areas, even those that have never had an I/C failure. Although additional evaluations may need to be conducted to meet regulatory requirements, this is not the greatest concern *regarding the effectiveness* of I/C. Neither is any unwarranted duplication of monitoring efforts.

Rather, it is that errors from control failures **were not detected timely** by the routine monitoring procedures. In this instance, management would need to assess if additional procedures were required, or if the current procedures failed to perform as intended.

Item ID: 33683
Key: B
BEC.CSO.20190701: BEC.001.001.002
BEC.SSO.20190701: Application:2

A member of the audit committee is evaluating the following risk matrix for a company:

Item Number	Likelihood	Severity	Risk
1	8.3%	$20,235	Cash Register Embezzlement
2	13.60%	$169,477	Vendor Kickbacks (collusion)
3	7.5%	$522,531	Server Outage
4	1.1%	$2,937,632	Financial Statement Earning Restatement

Using statistical risk ranking methodology, which of the following lists of risks is correctly prioritized?

A. 2,1,3,4.

B. 2,1,4,3.

C. 3,4,2,1.

D. 4,3,2,1.

Statistical risk ranking is a **risk management process** which quantifies identified risk by multiplying the **likelihood** of occurrence by the **financial severity** of the risk. The likelihood of occurrence depends upon the business industry.

For example, the likelihood of a customer complaint in the restaurant segment might be frequent while in the transportation segment (ie, trucking) it might be rare. Severity is generally the dollar impact of the event.

The correct **prioritization of risk is 3, 4, 2, 1**, determined by multiplying the severity times the likelihood as follows:

Item Number	Likelihood	Severity	Risk (rounded)	Ranking
1	.083	$ 20,235	$ 1,680	4
2	.136	169,477	23,049	3
3	.075	522,531	39,190	1
4	.011	2,937,632	32,314	2

Item ID: 81860
Key: C
BEC.CSO.20190701: BEC.001.002.002
BEC.SSO.20190701: Application:2

According to the Sarbanes-Oxley Act of 2002, each of the following is a corporate responsibility requirement, **except:**

A. The audit committee of the issuer is directly responsible for the appointment, compensation, and oversight of the registered accounting firm.

B. The audit committee chairperson must certify that the quarterly report filed with the SEC fairly presents the financial condition and results of operations.

C. The audit committee of the issuer must establish whistleblowing mechanisms and procedures within the issuer.

D. Each audit committee member of the issuer must be independent.

The audit committee (A/C) consists of **independent members** of the board of directors. Independent members are not employed by the entity, are not shareholders, and are otherwise unattached to the entity.

An A/C member may receive compensation such as director fees, retainers, and meeting fees for serving on the board and/or committees but may not:

- Accept any other consulting, advisory, or compensatory fee from the company.
- Be affiliated with the company.

The A/C is responsible for overseeing the:

- Financial reporting process, making certain that reliable information useful to stakeholders is available on a timely basis.
- Appointment and compensation of the entity's auditors.
- Establishment of appropriate internal controls, including programs for the prevention and detection of fraud.
- Creation and publication of a code of ethics for senior financial officers.
- Establishment of a process for employees to anonymously report concerns (ie, whistleblowing) accounting matters and/or fraud.
- Engagement of independent counsel as deemed necessary.

The CEO and CFO must certify that the quarterly report filed with the SEC fairly presents the financial condition and results of operations, not the audit committee.

Item ID: 35265
Key: B
BEC.CSO.20190701: BEC.001.003.000
BEC.SSO.20190701: Remembering and Understanding:1

A manufacturer performed an analysis of its product's price point in an effort to meet its customers' demand without experiencing excess inventory.

Price Point	Supply	Demand
$4	20	10
$3	15	15
$2	10	20
$1	5	25

The manufacturer uses just-in-time inventory processes, and demand for the product is elastic. Which of the following prices should management use in order to address the efforts above while maximizing profits?

A. $1

B. $2

C. $3

D. $4

The **price point** of a product is the hypothetical amount charged for each item. Generally, the lower the price, the greater the demand. The price point is determined after analyzing supply and demand interaction.

Just-in-time (JIT) is an **inventory management system** designed to **prevent excess inventory** balances that increase ***nonvalue-added costs*** like storage and moving. JIT (ie, pull method) is based **on actual demand** while traditional inventory management methods (ie, push method) are based on long-range forecasts of anticipated demand (ie, sales).

This short-term focus allows JIT systems to maintain **low inventory** levels that are based on the next few days of production. Theoretically, the perfect system would carry zero inventory on hand; daily deliveries would meet daily production requirements. In this scenario, a price point of $3 sets inventory supply equal to demand, thus there are no costs to carry excess inventory.

Item ID: 503199
Key: C
BEC.CSO.20190701: BEC.002.002.000
BEC.SSO.20190701: Application:2

A company increased the price of its products and noted subsequent decreases in demand as below:

	Price Increase	Demand Decrease
Product A	20%	40%
Product B	30%	20%

The data above best support which of the following conclusions regarding the price elasticity of demand for the two products?

A. Product A is treated by consumers as a necessity.

B. Product B is treated by consumers as a luxury item.

C. Substitutes are more readily available for Product A than for Product B.

D. Substitutes are more readily available for Product B than for Product A.

Barring shifts in the demand curve, a firm expects the quantity demanded for its product to decrease as the price increases, and vice versa. Whether total revenue will increase or decrease when prices change depends on the **price elasticity of demand** (aka, "elasticity of demand"). This concept measures how responsive the quantity demanded is to a change in price.

The price elasticity of demand is the percentage change in quantity demanded divided by the percentage change in price. One of the factors that affects the elasticity of demand is the **number of available substitutes** – more substitutes results in a more elastic demand since the buyer has alternatives to choose from if the price were to change.

Another factor is whether the product is a necessity or a luxury. If a good is necessary to have, the buyer will not be as sensitive to price changes, meaning that the demand will be less elastic for necessities (ie, Product B). If a good is a luxury, it is not necessary to have it so the demand will tend to be more elastic (ie, Product A).

Here, the price elasticity of demand is -2 (-40%/20%) for Product A and -.67 (-20%/30%) for Product B. Therefore, the demand for Product A is elastic; that is, the buyer is relatively sensitive to a change in the price. Demand for Product B is inelastic - the buyer is not very sensitive to a change in the price.

Item ID: 503197
Key: C
BEC.CSO.20190701: BEC.002.002.000
BEC.SSO.20190701: Application:2

Two companies make handcrafted wooden ducks and rocking horses. Information about each company's weekly production alternatives is as follows:

Company	Ducks	Horses
Treasure	60	15
Gem	24	12

Production possibilities are linear. The annual market for ducks in the relevant shipping range is saturated at 4,160 ducks. Treasure and Gem enter into a trade agreement. According to the principle of comparative advantage, which company should produce which product and why?

A. Gem should produce horses because it only needs to sacrifice four ducks compared to Treasure's 10 ducks.

B. Gem should produce ducks because it only needs to sacrifice two ducks compared to Treasure's four ducks.

C. Treasure should produce horses because it only needs to sacrifice one-half of a horse compared to Gem's one-fourth of a horse.

D. Treasure should produce ducks because it only needs to sacrifice one-fourth of a horse compared to Gem's one-half of a horse.

Comparative advantage is an economic law that focuses on opportunity cost. It is generally used to illustrate that protectionism is unnecessary in free trade. Here it is applied to two companies rather than two nations. In essence, it determines which entity/country is **more efficient** (ie, more profitable) in the production of a given product or service.

To calculate comparative advantage, first calculate the opportunity cost of each item. **Opportunity cost** is the **profit sacrificed** by choosing to make one product over another. Since profit information is not provided here, the production relationship between ducks and horses will provide the same information.

For Treasure, the relationship between producing Ducks versus Horses is 60:15, or 4:1. For Gem, the relationship is 24:12, or 2:1. Treasure is more efficient in the production of ducks since it can produce 4 ducks for every 1 horse while Gem can only produce 2 ducks for every 1 horse. Treasure should produce ducks because it only needs to sacrifice one-fourth of a horse compared to Gem's one-half of a horse.

Item ID: 34709
Key: D
BEC.CSO.20190701: BEC.002.002.000
BEC.SSO.20190701: Application:2

Gray Co. and Seas Co. have the following items on their balance sheet at the end of the current year:

	Current assets	Current liabilities
Gray Co.	$2,500,000	$1,000,000
Seas Co.	5,000,000	3,000,000

Which of the following statements best describes the liquidity position of the two companies in relation to each other?

A. Seas is more liquid because it carries a larger amount of current assets than Gray.

B. Seas is more liquid because it has working capital greater than Gray.

C. Gray is more liquid because it carries a smaller amount of current liabilities than Seas.

D. Gray is more liquid because it has a larger current ratio than Seas.

Businesses use **liquidity measures** to ensure they have sufficient financial resources to meet short-term financial obligations. Two common measures of liquidity include the **current ratio** and **working capital**. The current ratio divides current assets (CAs) by current liabilities (CLs) whereas working capital subtracts CLs from CAs.

Knowing the amount of working capital may be useful for internal management purposes but it is not useful for comparing liquidity between companies. The current ratio measures short-term debt-paying ability as a percentage while working capital measures the ability to meet current expenses in dollars. The **current ratio is more** useful since it can compare across companies and/or industries and show the relative strength or weakness of the company's liquidity.

The **current ratio** shows how many dollars in CA are available to pay every dollar of CL. In this scenario, Gray has **$2.50 in CA to pay every $1 in CL** while Seas only has $1.67 in CA to pay each $1 in CL, as shown below:

	Current assets	Current liabilities	Working capital	Current ratio
Gray Co.	$2,500,000	$1,000,000	$1,500,000	2.50
Seas Co.	5,000,000	3,000,000	2,000,000	1.67

ID: 25575
Key: D
BEC.CSO.20190701: BEC.002.003.001
BEC.SSO.20190701: Application:2

Based on the following data, what is the cost of goods sold for the company?

Sales	$1,000,000
Net purchases of raw materials	600,000
Cost of goods manufactured	800,000
Marketing and administrative expenses	250,000
Indirect manufacturing costs	500,000

	Beginning inventory	Ending inventory
Work in process	$500,000	$400,000
Finished goods	100,000	500,000

A. $200,000

B. $400,000

C. $600,000

D. $900,000

Certain costs are classified as **product costs** because they are incurred only when creating a product. Examples include raw materials, direct labor, and overhead, which includes indirect manufacturing costs (eg, depreciation). Product costs are not expensed until the product is sold. Other expenses not directly tied to the production process (eg, marketing and administrative expenses) are classified as period costs and are expensed in the period they are incurred.

Cost of goods manufactured (COGM) is the accumulation of product costs for goods that are *completed* (ie, manufactured) for a reporting period. Marketing and administrative expenses are period costs and therefore not included in COGM.

COGM is used to determine cost of goods sold (COGS). COGM is given as $800,000. COGS is $400,000, calculated as follows:

Beginning finished goods	$100,000
Plus COGM	800,000
Goods available for sale	900,000
Finished goods ending	(500,000)
COGS	**$400,000**

Item ID: 27035
Key: B
BEC.CSO.20190701: BEC.003.002.001
BEC.SSO.20190701: Application:2

A company provides the following information about discount factors and yearly cash flows:

Number	Discount factor	Annual cash flow
1	.9	$200
2	.8	400
3	.7	500
4	.6	500

If the discounted payback method is used, an outlay of $1,000 cash would most likely result in payback in which of the following months?

A. Month 33.

B. Month 36.

C. Month 42.

D. After month 48.

Businesses use capital budgeting techniques to select projects with the *most potential for profit*. One technique is the **payback period method**, which estimates how long it will take to **recover the initial cost** of a project. The payback period is the point at which the cumulative cash flows equal the cost.

At the end of Year 3 (36 months), the PV of cumulative cash flows is $850. Another $150 is needed to reach the initial cost amount of $1,000. That is 50% ($150 / $300) of Year 4, or 6 months. Therefore, payback will be reached at the end of **month 42**.

	Annual cash flow	Discount factor	PV of cash flow	Cumulative PV
Year 1	$200	.9	$180	$180
Year 2	400	.8	320	500
Year 3	500	.7	350	850
Year 4	500	.6	300	1150

Item ID: 25877
Key: C
BEC.CSO.20190701: BEC.003.003.000
BEC.SSO.20190701: Application:2

Which of the following individuals or groups within an organization reviews and approves long-range plans and oversees its information systems?

A. Systems steering committee.

B. Project development team.

C. Systems analyst.

D. Database administrator.

In order to tailor IT governance to a business, the board of directors and management rely on committees, particularly the IT Steering Committee, to provide oversight, prioritize stakeholder requests, set policy, and monitor IT activities.

The IT Steering Committee consists of management-level employees. Their responsibilities include:

- Prioritizing IT projects (short and long-range) and allocating IT resources.
- Overseeing information systems and communicating control and risk information.
- Evaluating IT performance.

A systems analyst, project development team members, and/or database administrator would not individually approve long-range plans or perform high-level monitoring of IT projects.

Item ID: 40201
Key: A
BEC.CSO.20190701: BEC.004.001.001
BEC.SSO.20190701: Remembering and Understanding:1

A credit card company that processes millions of transactions each year has experienced an increase in fraudulent transactions. The company maintains a data warehouse with data about customers and transactions from the past five years. How could the company best use this data to detect potentially fraudulent charges within 24 hours of receipt of transaction data?

A. Employ data mining.

B. Increase the internal audit staff.

C. Adopt more stringent credit-approval policies.

D. Use sequential coding for authorization numbers.

Data mining (also called data mining as data discovery, knowledge discovery, or discovery analysis) is essentially the **foundation of data analytics**. It involves looking for patterns, trends, relationships (associations) or anomalies within a data set. As such, it can be useful in detecting fraudulent charges based on past transactional behavior.

Increasing the internal audit staff will not be sufficient to examine millions of transactions and would be less efficient than use data mining. Adopting more stringent credit-approval policies may reduce credit losses but will not reduce fraudulent transactions, particularly since fraud could be committed by internal parties.

Sequential coding (also called serial coding) labels numbers in a consecutive order. If fraud is committed within an otherwise legitimate transaction (eg, credit card theft), sequential coding will not detect this. If a fraudulent transaction occurs in a field other than an authorization number (eg, a transaction amount), sequential coding will not appropriately detect this transaction.

Item ID: 25539
Key: A
BEC.CSO.20190701: BEC.004.001.003
BEC.SSO.20190701: Application:2

A company's time-based model of security gathers the following data:

	Estimated time in minutes	
Event	Best-case	Worst-case
Detection: intrusion attempt is detected, and appropriate security staff are notified	8	14
Correction: detected intrusion attempts are analyzed, and corrective actions are implemented	14	18

The estimated time for an intruder to penetrate the system is 27 minutes. Which of the following conclusions is appropriate?

A. The security policy is ineffective under all of the best-case scenarios.

B. The security policy is effective under the best-case detection time scenario coupled with the worst-case correction time scenario.

C. The security policy is effective under the worst-case detection time scenario coupled with the best-case correction time scenario.

D. The security policy is effective under all of the worst-case scenarios.

Time-based security (TBS) is a methodology used to measure and **quantify the effectiveness** of a given level of **security**, including the cost of accepted vulnerabilities (eg, blind spots, gaps in protection, etc). Management can then decide and budget for the preventive and detective measures it decides are cost-beneficial.

The formula for TBS is $P(t) > D(t) + R(t)$, where:
P = the time to break controls
D = the time to detect the attack and notify security
R = the time to respond correct any damage from the attack

There are four scenarios for determining total TBS using best (B) case and worst (W) case detection (D) and response (R) information:

BD + BR =	8 + 14 =	22 minutes
BD + WR =	8 + 18=	26 minutes
WD + BR =	14 + 14 =	28 minutes
WD +WR =	14 + 18 =	32 minutes

Clearly the most favorable TBS is the best case scenario for detection and response actions of 22 minutes. However, that is not an answer option. The next best scenario of 26 minutes is best case detection and worst case response times. The remaining two options exceed 27 minutes and are not effective.

Item ID: 35839
Key: B
BEC.CSO.20190701: BEC.004.003.003
BEC.SSO.20190701: Application:2

MultiCo has the following sales mix:

Product	Sales price	Variable costs	Fixed costs	Percent units sold
Shoes	$100	$25	$40	30%
Swimsuits	50	10	20	50%
Hats	40	5	5	20%

What amount is MultiCo's weighted average contribution margin per unit?

A. $40.00

B. $49.50

C. $56.67

D. $63.33

Contribution margin (CM) equals unit sales price less unit variable cost (VC). It represents the amount per unit of sales revenue that is not consumed by VC, and so it contributes to covering fixed costs. Fixed cost is not part of calculating CM.

Weighted average contribution margin (WACM) represents the average CM of a group of products. WACM can be determined by multiplying the individual CM per unit by its percent of units sold, as shown below:

Product	Sales price	Variable costs	Contribution margin (CM)	Percent units sold	Weighted average CM
Shoes	$100	$25	$75	30%	$22.50
Swimsuits	50	10	40	50%	20.00
Hats	40	5	35	20%	7.00
Total					**$49.50**

If the number of units is known, WACM can also be calculated by dividing total CM by total units sold.

Item ID: 39599
Key: B
BEC.CSO.20190701: BEC.005.002.001
BEC.SSO.20190701: Application:2

Estimated sales for the Johnson Co. in the second quarter are shown below by month:

	April	May	June
Sales	$70,000	$40,000	$50,000

Johnson has a policy of maintaining 40% of the following month's estimated cost of sales on hand in merchandise inventory at the end of each month. The cost of goods sold is 60% of sales. What is the cost of the merchandise inventory that Johnson needs to purchase in May?

A. $21,600

B. $24,000

C. $26,400

D. $44,000

To assist management in strategic planning, companies use a master budget to help establish financial and production goals. The **master budget** consists of many smaller budgets, including a **purchasing budget**. This budget details the amount and timing of merchandise inventory purchases needed to meet sales requirements.

The first step is to define all requirements consistently. Remember that the cost of goods sold (COGS) is a *percentage of the sales amount*. Here, COGS is 60% of predicted sales for a given month. The cost of inventory needed for May's sales of $40,000 would therefore be $24,000 (60% × $40,000).

It is also important to remember that beginning inventory for one month equals ending inventory for the prior month (eg, beginning inventory for May is equal to ending inventory for April). Finally, ending inventory is 40% of the COGS for the *next* month.

The cost of inventory that Johnson needs to purchase in May is $26,400, calculated as follows:

Inventory needed for May sales	60% of May's sales	$24,000
Plus desired ending inventory	40% of June's COGS	12,000
Less beginning inventory for May	40% of May's COGS	9,600
Cost of purchases for May		**$26,400**

Item ID: 25735
Key: C
BEC.CSO.20190701: BEC.005.004.001
BEC.SSO.20190701: Application:2

A company has determined that its sales to residential home builders tend to vary with changes in the prime interest rate. Sales this year will be $5 million. The following information is available:

Prime interest rate	Probability	Sales growth
Increases 2%	15%	(20%)
Increases 1%	40%	3%
Unchanged	35%	5%
Decreases 1%	10%	8%

What amount is the expected value of the company's sales for the coming year's budget?

A. $5,037,500

B. $5,150,000

C. $5,172,500

D. $5,337,500

COSO's Enterprise Risk Management (ERM) framework addresses multiple aspects of risk, including **prioritizing risk** and **assessing the severity** of that risk. The primary factor in prioritizing risk is calculating the **expected value**.

To find the expected value (ie, weighted average), multiply each possible outcome by its likelihood (or probability) and sum the amounts. The first step is to determine the projected sales amount, given the growth rate and current year sales of $5,000,000.

Projected sales are then multiplied by the probability to determine the expected value for that level of sales growth. Total expected value is $5,037,500, calculated as follows:

Prime interest rate	Probability	Sales growth	Projected Sales	Expected value
Increases 2%	15%	(20%)	$4,000,000	$ 600,000
Increases 1%	40%	3%	5,150,000	2,060,000
Unchanged	35%	5%	5,250,000	1,837,500
Decreases 1%	10%	8%	5,400,000	540,000
Expected value				$5,037,500

Item ID: 29663
Key: A
BEC.CSO.20190701: BEC.005.004.002
BEC.SSO.20190701: Application:2

MULTIPLE CHOICE - HARD

A company has established and communicated baseline expectations for performance to all employees. The company's action demonstrates a focus on which of the following components of the COSO Internal Control Framework?

A. Control activities.

B. Monitoring activities.

C. Control environment.

D. Information and communication.

COSO defines **internal control** (I/C) as a process developed to provide reasonable assurance that the objectives related to operations, reporting, and compliance are achieved. To assist entities in this process, COSO created the internal control framework, which consists of five components.

One component, the **control environment**, is a combination of standards, processes, and structures that enable I/C to be **effective** throughout an organization. COSO indicates that this is the most significant component when it comes to **communicating baseline expectations** about an entity's attitude toward competence and accountability (eg, **job performance**), **integrity, and ethics**.

Control activities are the *policies and procedures* that management designs and implements to *address risks*. Monitoring refers to the processes an entity uses to determine if all five of the I/C components are in place and are functioning in the manner intended. Information and communication relates to how the entity *obtains and develops information* and how the information is disseminated.

Item ID: 86779
Key: C
BEC.CSO.20190701: BEC.001.001.002
BEC.SSO.20190701: Remembering and Understanding:1

A threat to an information system with a total potential dollar loss impact of $7 million has been discovered. The risk of loss to the identified threat is currently 10%. The following four proposed controls are under consideration to mitigate the risk of loss:

Control name	Risk of loss	Implementation cost
W	8%	$100,000
X	6%	250,000
Y	4%	350,000
Z	2%	500,000

Based on a cost-benefit analysis, which control provides the greatest net benefit?

A. Control W.

B. Control X.

C. Control Y.

D. Control Z.

Successful entities know how to identify and manage risk. **Risk assessment** refers to an entity's recognition that events may occur that pose risks to its objectives and the process of identifying and evaluating those risks.

The primary factor in prioritizing risk is calculating the expected value. **Expected value** assigns probabilities to identified risks and combines the likelihood and amount of all the risks into a single value. Here, Control Y provides the greatest net benefit of $840, as shown below:

	A	B	C	D	E	F	G
1	**Control**	**Cost ($)**	**Risk of loss (%)**	**Expected value ($)**	**ROL to identify theft (%)**	**(E - C)**	**(D × F)**
2	W	100,000	0.08	8,000	0.10	0.02	$ 160
3	X	250,000	0.06	15,000	0.10	0.04	$ 600
4	Y	350,000	0.04	14,000	0.10	0.06	$ 840
5	Z	500,000	0.02	10,000	0.10	0.08	$ 800

Item ID: 92762
Key: C
BEC.CSO.20190701: BEC.001.002.002
BEC.SSO.20190701: Application:2

When risk is evaluated, which of the following risk responses is generally considered a sharing response?

A. Diversifying product offerings.

B. Entering into syndication agreements.

C. Reallocating capital among operating units.

D. Rebalancing the asset portfolio to reduce exposure to certain types of losses.

Identified risks must be **prioritized** to develop **risk responses**. Alternative risk responses include risk acceptance, sharing, reducing (or mitigating), and avoidance. Appropriate responses are based on the amount of potential damage (financial and nonfinancial) and rate of occurrence.

Risk acceptance occurs when the entity takes no action and simply allows the event to occur. This occurs when the entity believes the risk is at an acceptable level or that the cost of taking action would exceed the benefit of the reduction.

Risk sharing occurs when the risk burden is partially or wholly **distributed to other external parties.** For example, obtaining insurance coverage or entering into a syndication agreement.

Risk reduction can include *changing the operating environment* (eg, diversifying product offerings) or rebalancing an asset portfolio to reduce exposure to certain types of losses. Reallocating capital among operating units simply shifts the risk internally; it does not reduce the aggregate risk.

When none of the above alternatives is an option, **risk avoidance** may be the best alternative. For example, the entity may need to eliminate a line of business, stop using a particular raw material, or buying from a specific supplier.

Item ID: 32793
Key: B
BEC.CSO.20190701: BEC.001.002.002
BEC.SSO.20190701: Remembering and Understanding:1

According to the Sarbanes-Oxley Act of 2002, the audit committee of an issuer is responsible for each of the following activities, **except**

A. Evaluating and reporting on the effectiveness of the company's internal control over financial reporting.

B. Preapproving all audit and nonaudit services provided by the company's auditor.

C. Establishing procedures for the receipt, retention, and treatment of complaints received by the company regarding accounting, internal control, and auditing matters.

D. The appointment, compensation, and oversight of the work of the registered public accounting firm employed by the company.

The audit committee (A/C) consists of **independent members** of the board of directors. Independent members are not employed by the entity, are not shareholders, have no financial relationship with the entity, and are otherwise unattached to the entity.

The A/C is responsible for overseeing the:

- Financial reporting process, making certain that reliable information useful to stakeholders is available on a timely basis.
- Appointment, compensation, and oversight of the entity's external auditors as well as preapproving all audit and nonaudit services performed by them.
- Establishment of appropriate internal controls, including programs for the prevention and detection of fraud.
- Creation and publication of a code of ethics for senior financial officers.
- Establishment of a process for employees to anonymously report concerns regarding accounting, internal control, and auditing matters, including fraud.
- Engagement of independent counsel as deemed necessary.

Evaluating and reporting on the effectiveness of the company's internal control over financial reporting is the responsibility of the entity’s management and senior officers, such as the CEO and CFO.

Item ID: 35973
Key: A
BEC.CSO.20190701: BEC.001.003.000
BEC.SSO.20190701: Remembering and Understanding:1

A client owns a $1,000 10-year bond. The coupon rate is 6%. The client acquired the bond three years ago at a discount. What is known about the interest rates three years ago?

A. The stated rate was **less** than 6%.

B. The stated rate was more than 6%.

C. The market rate was **less** than 6%.

D. The market rate was more than 6%.

A **bond** is a borrowing agreement in which the issuer promises to repay a certain amount of money ($1,000) to the purchaser, after a certain period of time (term), at a certain interest rate. The rate printed on the bond (6%) is called the stated, face, or coupon rate. It represents the amount of cash the investor will receive every payment ($60 every year).

The effective or market rate is the actual rate of interest the issuer is paying on the bond based on the issue price. For example, if the entity's bond has a coupon rate is 6% but the market rate is 8%, no one will buy the entity's bonds. In order to entice buyers and make the bonds more marketable, the entity lowers the price of the bond (below $1,000) so that the interest paid is equivalent to an 8% return. In other words, the bond is **issued at a discount**.

Alternatively, when the effective rate of interest is lower than the stated rate (ie, the stated rate exceeds the current market rate), the bond is issued at a premium.

Item ID: 31535
Key: D
BEC.CSO.20190701: BEC.002.003.001
BEC.SSO.20190701: Application:2

An investment manager has been asked to prepare an analysis to show the difference between the interest rates on U.S. Treasury bonds and corporate bonds of equal maturity and marketability. What type of interest rate premium is being analyzed?

A. Inflation premium.

B. Default risk premium.

C. Liquidity premium.

D. Maturity premium.

Nominal interest rates are those regularly quoted by financial institutions and the bond marketplace. These rates typically have premiums added to the base rate to protect lenders against problems such as inflation, **loan or bond defaults**, or length of maturity.

One way to quantify the **risk of default** is to compare the risk-free rate to the rate provided on **corporate bonds** of equal maturity and marketability. The risk free rate is the amount charged to borrowers if lenders had an absolute certainty of being repaid (ie, no default risk).

The most common used rate is the amount charged on **U.S. Treasury bonds,** which is the **risk-free rate** as well as an inflation premium. Since corporate bonds would also include an inflation premium, the difference between U.S. Treasury rates and corporate bond rates would be the default risk premium.

A liquidity premium covers the risk that, due to a financial crisis, entities might not have sufficient cash to meet their obligations. This could force them to sell long-term assets (ie, bonds) at depressed prices.

A maturity premium compensates for the length of time a bondholder must wait to be repaid. Investors will demand a lower price (ie, a higher yield) for bonds with an extended maturity period.

Item ID: 25827
Key: B
BEC.CSO.20190701: BEC.002.003.001
BEC.SSO.20190701: Application:2

The transfer price set by a parent or subsidiary for goods or services most likely can be used by multinational companies to

A. Transfer as much of the cost as allowable to the country with the lowest overall tax burden.

B. Transfer funds from a subsidiary located in a strong-currency country to a subsidiary located in a country with depreciating currency.

C. Transfer as much of the cost as allowable to the country with the highest overall tax burden.

D. Change the financial statements of the individual subsidiaries.

Transfer pricing is the amount charged by one related entity (eg, subsidiary) to another for the sale of goods/services. For example, the price charged by an automobile manufacturer's battery division (ie, Division A) to its final assembly division (ie, Division B) would be called the transfer price.

Domestic transfer pricing is used to simplify the recording process for acquiring goods/services by eliminating the need for invoices, bills of lading, and other documents that would be required for an *external purchase* from an independent vendor.

International transfer pricing It is also used to generate **tax savings** for the **consolidated parent** by assigning as much *cost as possible* to entities in high-tax countries. Remember, high cost will reduce taxable income. Companies must exercise caution in their transfer pricing strategies because these transactions are subject to strict IRS guidelines.

The IRS website requires that transfer pricing "yield results that are consistent with the results that would have been realized if uncontrolled taxpayers had engaged in the same transaction under the same circumstances."

On a consolidated basis, all financial statements are in the same currency. Changing F/S would be a violation of GAAP.

Item ID: 27733
Key: C
BEC.CSO.20190701: BEC.002.003.002
BEC.SSO.20190701: Application:2

Information about returns of eight stocks is as follows:

Stock	
E	Perfectly correlated with F.
F	Perfectly correlated with E.
H	Positively correlated with I.
I	Positively correlated with H.
J	Not correlated with K.
K	Not correlated with J.
L	Perfectly negatively correlated with M.
M	Perfectly negatively correlated with L.

Which pair of stocks, if the stocks are purchased in equal amounts, will create the portfolio with the **least** risk?

A. E and F.

B. H and I.

C. J and K.

D. L and M.

The measure of the degree to which various investments move together may be captured by a **covariance matrix**. Since interpreting a covariance matrix is not straightforward, investors often focus on the **correlation coefficients** between **pairs of investments**.

- *Correlation coefficient = 1.00* Here, when one investment goes up, the other always goes up. When one goes down, the other always goes down; this is a positive correlation.
- *Correlation coefficient = 0* This occurs when there is no identifiable relationship between the two investments.
- *Correlation coefficient = -1.00* When one investment goes up, the other always goes down. When one goes down, the other always goes up; this is a negative correlation.

By combining investments that have low covariances (ie, the investments are negatively correlated with each other), an investor can largely eliminate **unsystematic risk**. Unsystematic risk pertains only to a certain security or portfolio; it can be eliminated through diversification. Systematic risk (ie, beta) relates to the broader market and economy and cannot be eliminated.

Investment pairings with the least risk have perfectly negative correlation. For each decrease in one, there is an offsetting increase in the other, such as L and M in the list above.

Item ID: 36445
Key: D
BEC.CSO.20190701: BEC.002.003.002
BEC.SSO.20190701: Application:2

Which of the following is a valid method of calculating the internal rate of return?

A. Calculate the present value of each cash flow for each year and subtract it from the cost of the investment.

B. Plot three or four combinations of net present value (NPV) and discount rate on a graph, connect the points with a smooth line, and locate the discount rate at which NPV=0.

C. Calculate the project net income for each year, and then compute a simple average. Average the project's beginning and ending book value. Divide the average net income by the average book value.

D. Compute the total of the present values of each year's cash flow. Divide the total of the present values by the initial investment.

The **internal rate of return (IRR)** is a capital budgeting technique used by management as a basis for allocating limited resources to the most profitable projects and/or investments. It is the discount rate at which the **net present value (NPV) is zero** (essentially the breakeven point).

Said differently, the IRR equates the present value (PV) of cash outflows (typically the project's cost) to the PV of cash inflows (ie, NPV = $0). NPV is the PV of net cash flows (for all years) less the cost of the investment.

The IRR is often compared to the entity's minimum required return on a given project (ie, hurdle rate. If the IRR exceeds the minimum required return, the project is considered acceptable.

If sufficient information is not available to calculate the IRR, it can be estimated. Plot three or four combinations of net present value (NPV) and discount rate on a graph. Be sure to include both positive and negative NPV as the graph line needs to cross the X axis. Connect the points and identify the discount rate at which NPV=0. This will be the estimated IRR.

Item ID: 27639
Key: B
BEC.CSO.20190701: BEC.003.003.000
BEC.SSO.20190701: Remembering and Understanding:1

A company is evaluating four projects as possible investments. All of the projects are for the same activity. The company will select only one project. The company's discount rate for such projects is 10%, and the tax rate is 40%. The company's reinvestment rate is 10%. Additional information about the projects is as follows:

Project	Internal rate of return	Net present value
A	11%	$210,000
B	12%	195,000
C	13%	175,000
D	14%	200,000

Which project would be most advantageous to the company?

A. Project A.

B. Project B.

C. Project C.

D. Project D.

The **internal rate of return (IRR)** is a capital budgeting technique used by management as a basis for **allocating limited resources** to the most profitable projects or investments. The IRR is the discount rate which sets cash inflows equal to cash outflows (ie, NPV equals $0, or breakeven for the project).

NPV estimates the profitability of an investment in today's dollars and can be used to compare investments. NPV equals the excess of the present value (PV) of cash inflows over the PV of cash outflows (typically the initial investment).

The 10% discount rate is the minimum rate (also called the hurdle rate) at which the entity would find a project acceptable. Because all the IRRs exceed the minimum, all would be considered acceptable. Taxes are not relevant for this question because both the IRR and the NPV are based on cash flows.

The most advantageous project for the company is the project that **returns the most cash**, which is Project A. Even though Project D has a greater IRR, it returns less cash, so the project is less profitable.

Item ID: 36451
Key: A
BEC.CSO.20190701: BEC.003.003.000

BEC.SSO.20190701: Application:2
XBRL has which of the following features?

A. XBRL tags define the data.

B. XBRL is interchangeable with HTML.

C. XBRL does **not** require the use of tags.

D. XBRL is interchangeable with SQL.

eXtensible Business Reporting Language (XBRL) is an open, market driven computer language that allows for the free electronic exchange of business and financial data. Instead of treating financial information as a block of text (eg, Word document), it provides a computer-readable **identifying tag** defining each individual item of data.

For example, "net income" has its own unique tag and a computer could immediately generate a comparison of net income for multiple companies or periods. XBRL eliminates the costly process of manual data comparison as computers can select, analyze, store, and exchange data in XBRL documents.

Another benefit to XBRL is that it reduces the chance of errors when generating reports. Additionally:

- XBRL can handle data in different languages and accounting standards.
- XBRL is built upon XML (Extensible Mark-up Language).
- The SEC mandated that all public companies file financial statements in XBRL.

XML (Extensible Markup Language) is interchangeable with HTML (HyperText Markup Language). Both are specialized languages used to create websites.

Item ID: 30293
Key: A
BEC.CSO.20190701: BEC.004.001.002
BEC.SSO.20190701: Remembering and Understanding:1

A transaction processing system allows an authorized individual to select a quantity of items from the company's online inventory. It is also possible to trace back to a copy of the purchase order to see when the items were ordered and who authorized the order. Which of the following features does this system have?

A. Automated order processing.

B. An audit trail.

C. An inventory tracking system.

D. Real-time inventory auditing.

Although the existence of an electronic processing system does not change the basic objectives of an audit engagement, it has a major impact on the approach used to achieve those objectives. The responsibility for determining the acceptable level of audit risk and assessing the component risks remains with the auditor (either internal or external auditor).

One of the more significant concerns to an auditor is the **unauthorized access** to a computer system. This can cause more damage to the accounting system as a whole than in a manual system where it is difficult for one person to access all the different records of the system.

The feature that best mitigates this risk is a strong and reliable **audit trail**. The audit trail is an electronically visible trail of evidence enabling one to trace information contained in statements or reports back to the original input source.

An audit trail is also important for the proper functioning of the system during the year. It allows monitoring of activities, providing a deterrent to fraud and making it possible to answer queries by examining the source data.

Item ID: 40023
Key: B
BEC.CSO.20190701: BEC.004.001.002
BEC.SSO.20190701: Application:2

In order to calculate a single-level sales tax on gross retail sales by day, an accountant set up a spreadsheet and entered data as follows:

Date	Gross Sales	Sales Tax
April	$1,500,000	8.0%
May	1,000,000	8.0%

Which of the following best practices would improve this spreadsheet?

A. Hard-coding the sales tax rate into all of the cells in column C.

B. Using a mixed cell reference for the sales tax rate for all of the cells in column C.

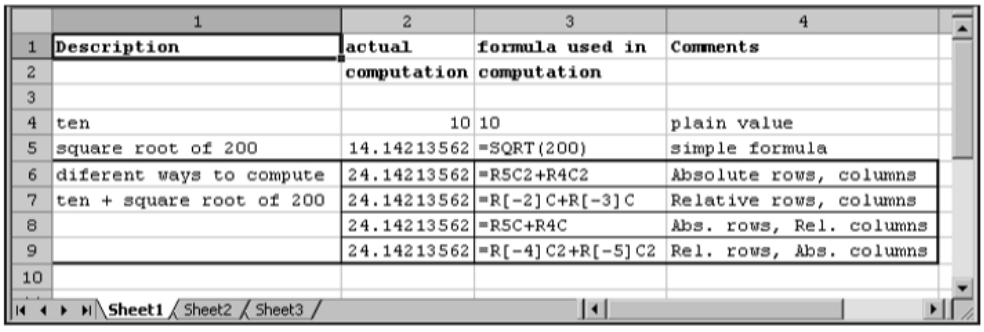
C. Using a relative cell reference for the sales tax rate for all of the cells in column C.

D. Using an absolute cell reference for the sales tax rate for all of the cells in column C.

Excel spreadsheets often refer to values already reflected in the same or different spreadsheet. There are several types of cell references, including:

- Absolute – cites the specific row and column.
- Relative – cites how far away the row and column extend.
- Mixed (hybrid) – a combination of absolute and relative styles.

In the image below, rows 6 through 9 present various ways to calculate the value of 10 plus the square root of 200. For best practices, the spreadsheet should use an absolute cell reference for the sales tax rate (since it remains constant for all calculations).



	1	2	3	4
1	Description	actual computation	formula used in computation	Comments
2				
3				
4	ten	10	10	plain value
5	square root of 200	14.14213562	=SQRT(200)	simple formula
6	diferent ways to compute	24.14213562	=R5C2+R4C2	Absolute rows, columns
7	ten + square root of 200	24.14213562	=R[-2]C+R[-3]C	Relative rows, columns
8		24.14213562	=R5C+R4C	Abs. rows, Rel. columns
9		24.14213562	=R[-4]C2+R[-5]C2	Rel. rows, Abs. columns
10				

Sheet1 Sheet2 Sheet3

Source: *Excel Best Practices for Business*, Abdulezer, Loren, 2004.

Item ID: 501043
Key: D
BEC.CSO.20190701: BEC.004.003.002
BEC.SSO.20190701: Application:2

Paper Co. budgeted the following amounts for the period:

Sales	1,000 tons	$4,500,000
Wood purchases	2,000 tons	1,600,000

Actual amounts were:

Sales	1,200 tons	$4,800,000
Wood purchases	2,200 tons	1,980,000

If there were **no** changes in inventory, what amount would be the usage variance?

A. $160,000

B. $180,000

C. $200,000

D. $220,000

The direct material usage (or quantity) variance is the difference between the **total actual quantity used** and the **total standard quantity allowed** based on actual production volume, multiplied by the **standard cost per unit**.

Prior to calculating the variance, determine the formula inputs. When calculating the usage variance, the inputs are the total tons used (not purchased) and the price per ton of material.

Actual material used	given	2,200 tons
Standard material allowed	given	2,000 tons
Standard price per ton	$1,600,000 / 2,000 tons	$800 per ton

The direct materials usage variance is **$160,000 unfavorable** ([2,200 – 2,000] × $800). More material was used than what was allowed, indicating that the material was inefficiently used. Whenever the actual usage exceeds the allowed usage, the variance will be unfavorable.

Item ID: 39977
Key: A
BEC.CSO.20190701: BEC.005.002.001
BEC.SSO.20190701: Application:2

Clear Plus, Inc. manufactures and sells boxes of pocket protectors. The static budget and the actual results for May are as follows:

	Actual results	Static budget
Units sold	12,000	10,000
Revenues	$132,000	$100,000
Variable costs	$70,800	$60,000
Contribution margin	$61,200	$40,000
Fixed costs	$32,000	$30,000
Operating income	$29,200	$10,000

What amount of operating income will Clear Plus have for May under a flexible budget?

A. $12,000

B. $18,000

C. $19,200

D. $29,200

Budgets used for internal planning and control purposes can be **static or flexible**. Both types of budgets include revenues, variable costs, and fixed costs.

Static budgets estimate amounts for a specific level of activity (ie, 10,000 units). Static budgets do not change (or recalculate) each time activity levels change. **Flexible budgets** hold total fixed costs constant (within a relevant range) and adjust (ie, "flex") total revenues and variable costs for changes in the activity level.

Clear Plus will have operating income of $18,000 for May under a flexible budget, calculated as follows:

	Static budget (10,000 units)	**Amount per unit (10,000 units)**	**Flexible budget (12,000 units)**
Revenues	$100,000	$10.00	$120,000
Variable costs	60,000	6.00	72,000
Contribution margin	40,000	4.00	48,000
Fixed costs	30,000		30,000
Operating income	$ 10,000		$ 18,000

Item ID: 39587
Key: B
BEC.CSO.20190701: BEC.005.004.001
BEC.SSO.20190701: Application:2

A company normally sells a product for $12 per unit. The plant capacity is 100,000 units per month, and current production is 75,000 units per month. Current costs are as follows:

	Per unit	Total at 75,000 units
Direct materials	$4	$300,000
Direct labor	3	225,000
Fixed plant facility cost	2	150,000
Shipping costs	1	75,000

The company received a one-time special order for 10,000 units, which would be shipped in bulk to the buyer at a cost of $5,000 (10,000 times $0.50). What amount is the minimum selling price per unit that the company should accept for the special order?

A. $10.00

B. $ 9.50

C. $ 8.00

D. $ 7.50

The **special order (SO)** type of question typically involves an order at a **lower than usual sales price or gross margin**. Assuming the production facility has *excess capacity*, the SO should be accepted if the SO sales price exceeds all related variable costs and any incremental fixed costs.

Here the company can accommodate the SO 10,000 units as it has excess capacity of 25,000 (100,000 – 75,000) units. Remember that **total fixed costs** are generally constant and would not increase due to a SO, so they are **not relevant**.

The minimum selling price per unit that the company should accept is $7.50, calculated as follows:

	Per unit
Direct materials	$4.00
Direct labor	3.00
Shipping costs (in bulk)	0.50
Minimum price	**$7.50**

Item ID: 30281
Key: D
BEC.CSO.20190701: BEC.005.004.002
BEC.SSO.20190701: Application:2

TASK BASED SIMULATIONS

Item: **2445**

An internal audit team noted that the CFO is reallocating JRM Company's investment portfolio into high-risk, high-return investments. Total investments for JRM represent 20% of the company's assets.

Write a memo to the audit committee expressing your concern over the investment strategy and the increased risk to the company. Discuss procedures and controls that could reduce the risk to JRM.

Type your communication in the response area below.

REMINDER: Your response will be graded for technical content and writing skills. Technical content will be evaluated for information that is helpful to the intended audience and clearly relevant to the issue. Writing skills will be evaluated for development, organization, and the appropriate expression of ideas in professional correspondence. Use an appropriate business format with a clear introduction, body, and conclusion. Do not convey information in the form of a table, bullet-point list, or other abbreviated presentation.

Memorandum

To: Audit committee
Re: Investment risks - procedures and controls

END OF CONTENT ----------

Through an internal audit on JRM's investment portfolio, the internal audit team has discovered that the CFO is reallocating into high-risk, high-return investments. Since the investment portfolio comprises 20% of the company's assets, the team feels that the audit committee should be alerted to this change.

Procedures should be in place to ensure that the additional risk from the change in investment strategy is appropriate for JRM. The audit team has provided the following information as the basis to establish controls on the investment selections for the portfolio. Prior to making investment decisions, the CFO should document the analysis done to ensure the investments provide the best mix of risk and returns for JRM.

While the risk associated with a portfolio of investments is smaller than the risk of individual investments, further analysis should be done to measure the degree the investments move together through a covariance matrix. By combining investments that have low covariances with each other, an JRM can largely eliminate unsystematic (unique) risk, or the risk that pertains to one investment (eg, a single company) or even to a group of similar investments (eg, mining stocks).

Management could also use a mean-variance optimization technique, combining the expected returns of various investments and their covariances with each other. This technique is used to identify the

portfolio that will have the highest possible expected return for any level of desired volatility. Said otherwise, or a particular expected return, the portfolio will have the lowest level of volatility.

Please discuss the investment strategy changes with the CFO and ensure that appropriate procedures are established and documented for the portfolio transactions. Once the portfolio changes have been implemented, please establish a procedure for reviewing the portfolio and making necessary adjustments to maintain expected returns. Thank you for your time.

Exhibits Information

There are no exhibits for this item.

Blueprint Information

CSO: 002.003.002

Skill: Written Communication

Representative task: Identify strategies to mitigate financial risks (e.g., market, interest rate, currency and liquidity) and quantify their impact on a business entity.

Item: **85881**

A company's controller maintains a spreadsheet to facilitate the reconciliation of the company's account balance per the bank to the company's account balance per the general ledger. The company's management is considering the implementation of new financial software that includes an automated bank reconciliation process.

In a memo to the controller, discuss the impact on the internal controls of migrating from a manual bank reconciliation process to an automated bank reconciliation process.

Type your communication in the response area below.

REMINDER: Your response will be graded for technical content and writing skills. Technical content will be evaluated for information that is helpful to the intended audience and clearly relevant to the issue. Writing skills will be evaluated for development, organization, and the appropriate expression of ideas in professional correspondence. Use an appropriate business format with a clear introduction, body, and conclusion. Do not convey information in the form of a table, bullet-point list, or other abbreviated presentation.

Memorandum

To: Controller
Re: Implementation of an automated bank reconciliation process

END OF CONTENT ----------

As part of our preliminary discussions with you last week, you mentioned that management is considering the implementation of new financial software that includes an automated bank reconciliation process. We thought it timely to address the effect on internal controls of migrating from a manual reconciliation process to an automated process.

Automated controls are those controls without human intervention, whereas manual controls require human intervention. When moving from manual to automated controls, the risk shifts from human error with manual controls to errors in the system stemming from inaccurate data or errors in the automation algorithm with automated controls.

Manual controls are a better option than automated controls when human judgment is required. Automated controls are a better option with uniform, consistent processes. Since the bank reconciliation process is fairly consistent and generally requires little judgment, it is a good candidate for automation.

Shifting from manual controls to automated controls introduces additional benefits. Automated controls can improve operational efficiency, ensure consistency of control operation, reduce the risk of human error, and decrease SOX compliance costs.

On the other hand, automated controls can introduce new risks. These risks stem from IT security issues or from inaccurate data entered into the system. Furthermore, there is a risk that the computer system may not process data correctly because the automation algorithm may be incorrect. This means that the organization must spend more time developing the automation algorithm. An additional concern with

moving to automated controls is the level of technical expertise of the audit team. The audit team may not have sufficient IT knowledge to audit automated controls. In this case, the audit team may need to bring in IT specialists; using these specialists can increase the cost of the audit.

Overall, automated controls work well for consistent and uniform processes that do not require significant human judgment. While they can improve efficiency and reduce the risk of human error, they introduce IT security issues and require greater technical knowledge from the auditor.

Exhibits Information

There are no exhibits for this item.

Blueprint Information

CSO: 001.001.002

Skill: Written Communication

Representative task: Apply the COSO internal control framework to identify an appropriate mix of automated and manual application controls, (e.g., authorization and approval, verifications, physical controls, controls over standing data, reconciliations and supervisory controls) to prevent and detect errors in transactions.

Item: **500060**

Scroll down to complete all parts of these tasks.

Mitro Ventures, Inc. is a global furniture manufacturer headquartered in the U.S. The company's controller asked you to perform some liquidity and profitability calculations based on the varying circumstances outlined in Tasks 1, 2, and 3 below.

Task 1:

Mitro purchases all of its timber from one vendor with standard payment terms of 30 days. If Mitro pays the invoices for timber within 10 days of the invoice date, it receives a 1.5% discount. If Mitro pays the invoices for timber after that, it does not receive any discount.

During the prior month, Mitro's consolidated revenue reached $100 million, with cost of sales of $50 million.

For the questions listed below in column A, enter the applicable percentages in the associated cells in column B, rounded to the nearest whole percent. If a response is zero, enter a zero (0). Use the Analytics Definitions exhibit for the calculation of the gross margin.

	A	*B*
1	**Question**	**Percentage**
2	Assuming a 365-day year, what is the effective annual interest rate that Mitro earns by consistently paying invoices for timber within 10 days throughout the year?	28%

Purchase discounts (also known as sales/trade/cash discounts) are offered to customers so that an entity (the seller) can improve cash flow. The timber vendor offered Mitro a **reduced credit term** (eg, a 1.5% discount) if Mitro pays its invoice within the discount period (eg, 10 days from the invoice date). IThis discount is typically shown as 1.5/10, net 30.

The effective annual interest rate earned by Mitro for consistent early payments is 28%, calculated as follows:

$$\frac{1.5\%}{(100\%-1.5\%)} \times \frac{365 \text{ days}}{(30 \text{ days}-10 \text{ days})} = .0152 \times 18.25 = \textbf{28\% rounded}$$

3	If revenue and cost of goods sold increased by 10% and 2%, respectively, from the prior month, what would be Mitro's gross margin?	54%

Gross margin is revenue (ie, sales) less the cost of goods sold (called cost of sales here, or COS). The gross margin percentage is gross margin divided by revenue. Mitro's gross margin for next month is calculated as follows:

Revenues: $100 million × 1.10 =	$110 million
Cost of sales: $50 million × 1.02 =	51 million
Gross margin =	$ 59 million
Gross margin percentage =	$59 / $110 = **54% rounded**

Task 2:

One of Mitro's business units is considering factoring $1,000,000 of accounts receivable on a without-recourse basis. The factor assesses a finance charge of 2% of the amount of accounts receivable factored. The factor retains an amount equal to 3% of the accounts receivable factored for probable adjustments.

Mitro sold a collection of furniture for 1,500,000 euros (€) to a retailer in a country located in the Euro Zone when the exchange rate was €1 = $1.20. Mitro's functional currency in this country is the U.S. dollar ($). At the end of the company's reporting period, Mitro collected the payment in euros for the sale of furniture when the exchange rate was €1 = $1.10.

For the questions listed below in column A, enter the applicable amounts in the associated cells in column B. Enter proceeds and gains as positive values and losses as negative values. If a response is zero, enter a zero (0).

	A	B
1	**Question**	**Percentage**
2	What amount of cash would Mitro initially receive upon factoring the $1,000,000 of accounts receivable?	$950,000

To improve cash flow, a company may decide to generate cash from its accounts receivable (A/R) without waiting for the collection from customers. One alternative is to **factor** (ie, sell) the A/R to a third party for a fee.

Factoring may occur with recourse or without recourse. If receivables are sold with recourse, the **company** (seller) retains the risk of uncollectible accounts. The factor (ie, buyer) has the right to demand payment for any defaulted receivable. In a sale **without** recourse, the **factor** assumes the **risk** for any uncollectible receivables. Therefore, the risk of uncollectible accounts is transferred to the factor (ie, not a liability for Mitro).

Mitro will receive $950,000 [($1,000,000 × 98%) – ($1,000,000 × 3% retainage)]. (The 98% is 100% - 25% finance charge.)

3	What is the foreign exchange gain (loss) that Mitro realizes at the end of its current reporting period resulting from adjusting the value of the accounts receivable balance to the new exchange rate?	($150,000)

When an entity enters into a transaction that will be settled through the payment or receipt of foreign currency, it is initially recognized in the functional currency of the entity using the exchange rate in effect on the date of the transaction (ie, spot rate). An entity's functional currency is the currency that has the greatest economic impact on the entity's financial performance (generally the local currency).

The transaction would have initially been recorded as follows:

Accounts receivable (1,500,000€ × $1.20)	1,800,000	
Inventory (furniture)		1,800,000

At year end, collection of the receivable would be as follows (since the exchange rate decreased, there was a loss):

Cash (1,500,000€× $1.10)	1,650,000	
Foreign currency loss	150,000	
Accounts receivable (1,500,000€ × $1.20)		1,800,000

Alternatively, take the change in the rate times the A/R: (1.10 – 1.20) × 1,500,000€ = 150,000 loss.

Task 3:

Mitro is in the process of calculating its operating and cash conversion cycles in days. Use the information in the table below to calculate these cycles.

The number of days between the sale of goods and collection of payment	20 days
The number of days between delivery of raw materials and payment for those raw materials	45 days
The number of days between the initial investment in inventories (when title has transferred to Mitro) and the final date of sale	30 days

For the questions listed below in column A, enter the applicable number of days in the associated cells in column B. If a response is zero, enter a zero (0). Use the Analytics Definitions exhibit for the calculation of the cash conversion cycle.

	A	B
1	**Question**	**Percentage**
2	Mitro's operating cycle consists of how many days?	50
	The operating cycle is the number of days from when a business initially invests in inventories (30 days) until the collection of payment from the sale (20 days). Here the **cycle is 50 days**. Note that the operating cycle is the first two components of the cash conversion cycle, show in the following question.	
3	Mitro's cash conversion cycle consists of how many days?	5
	The cash conversion cycle (CCC) combines three equations and measures the number of days from when a business pays for its inputs to when the cash is collected from the resulting sale of finished goods. Shortening the CCC improves profitability because larger CCCs require more financing. **CCC = ICP + RCP – RDR = 30 + 20 – 45 = 5 days** CCC = inventory conversion period (ICP) + receivables collection period (RCP) – (payables deferral period (PDP).	

ICP = Average inventory / COGS per day = 30 days.
RCP = Average accounts receivable / Average credit sales per day = 20 days.
PDP = Average payables / Purchases per day (or COGS/365) = 45 days.

Exhibits Information

Exhibits included in this item **1. Analytics Definitions**

Blueprint Information

CSO: 003.002.001

Skill: Application

Representative task: Calculate the metrics associated with the working capital components, such as current ratio, quick ratio, cash conversion cycle, inventory turnover, and receivables turnover.

Exhibit for Item: **500060**

Exhibit 1: **Analytics Definitions**

Analytics Definitions

Accounts receivable turnover	$\frac{\text{Sales (net)}}{\text{Average accounts receivable (net)}}$
Asset turnover	$\frac{\text{Sales (net)}}{\text{Average total assets}}$
Basic earnings per share	$\frac{\text{Income available to common shareholders}}{\text{Weighted-average common shares outstanding}}$
Cash conversion cycle	Days sales in accounts receivable + Days in inventory − Days of payables outstanding
Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$
Days in inventory	$\frac{\text{Ending inventory}}{\text{Cost of goods sold / 365}}$
Days of payables outstanding	$\frac{\text{Ending accounts payable}}{\text{Cost of goods sold / 365}}$
Days sales in accounts receivable	$\frac{\text{Ending accounts receivable (net)}}{\text{Sales (net) / 365}}$
Debt to equity	$\frac{\text{Total liabilities}}{\text{Total equity}}$

Dividend payout	$\frac{\text{Cash dividends}}{\text{Net income}}$
Equity multiplier	$\frac{\text{Total assets}}{\text{Total equity}}$
Gross margin (Gross profit margin)	$\frac{\text{Sales (net)} - \text{Cost of goods sold}}{\text{Sales (net)}}$
Inventory turnover	$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$
Operating cash flow ratio	$\frac{\text{Cash flow from operations}}{\text{Ending current liabilities}}$
Price earnings ratio	$\frac{\text{Price per share}}{\text{Basic earnings per share}}$
Profit margin	$\frac{\text{Net income}}{\text{Sales (net)}}$
Quick ratio	$\frac{\text{Cash and cash equivalents + Short-term marketable securities + Receivables (net)}}{\text{Current liabilities}}$
Return on assets	$\frac{\text{Net income}}{\text{Average total assets}}$
Return on equity	$\frac{\text{Net income}}{\text{Average total equity}}$

Return on sales	$\frac{\text{Income before interest income, interest expense, and taxes}}{\text{Sales (net)}}$
Times interest earned	$\frac{\text{Income before interest expense and taxes}}{\text{Interest expense}}$ **OR** $\frac{\text{Earnings before interest and taxes}}{\text{Interest expense}}$
Total debt ratio	$\frac{\text{Total liabilities}}{\text{Total assets}}$

Item: **500222**

Scroll down to complete all parts of these tasks.

Birch Corp. is a floral retailer and distributor in the United States. The company is interested in improving its working capital position during year 5.

Task 1:

Toward the end of year 4, the company's finance manager was asked to determine a reasonable level of cash that the company should borrow and maintain to meet working capital requirements. The finance manager asked you to review Birch's options, set forth in the working capital alternatives memo, to determine the impact of each strategy on elements of the company's net working capital.

Review the company's working capital alternatives memo and its accounts receivable aging schedule in the exhibits above and determine the impact of each strategy on elements of net working capital.

For each of the strategies listed in column A of the table below, click in the associated cell in column B and select the answer that best describes the impact that the strategy listed would have on the elements of net working capital as of December 31, year 4. Assume that execution of each of the strategies listed would take place on December 31, year 4.

	A	B
1	**Strategy**	**Impact on elements of Net Working Capital as of December 31, Year 4**
2	Term loan – option one	
3	Term loan – option two	
4	Line of credit	
5	Factoring agreement	
6	Sale of delivery trucks	

Task 2:

At the end of year 5, Birch had shareholders' equity in the amount of $10,380,000. The company's long-term liabilities were
$7,500,000, with net working capital, excluding accounts receivable, of $2,105,000. Birch's noncurrent assets had a carrying value of $15,190,000. What was Birch's accounts receivable balance at the end of year 5?

For the line item listed below in column A, enter the applicable amount, rounded to the nearest whole number, in the associated cell in column B. If an amount is zero, enter a zero (0).

	A	B
1	**Strategy**	
2	Accounts receivable	123

END OF CONTENT----------

-- Option List Details --

B2 List

- Current assets will increase by $120,000, and current liabilities will increase by $120,000.
- Current assets will increase by $240,000, and current liabilities will increase by $120,000.
- Current assets will increase by $240,000, and current liabilities will increase by $240,000.
- Current assets will increase by $240,000, and long-term liabilities will increase by $240,000.
- Current assets will not increase, but current liabilities will increase by $120,000.

B3 List

- Current assets will increase by $120,000, and current liabilities will increase by $120,000.
- Current assets will increase by $240,000, and current liabilities will increase by $120,000.
- Current assets will increase by $240,000, and current liabilities will increase by $240,000.
- Current assets will increase by $120,000, with no change to the current liabilities.
- Current assets will increase by $240,000, with no change to the current liabilities.

B4 List

- Current assets will increase by $120,000, and current liabilities will increase by $120,000.
- Current assets will increase by $120,000, and current liabilities will increase by $240,000.
- Current assets will increase by $240,000, and current liabilities will increase by $120,000.
- Current assets will increase by $240,000, and current liabilities will increase by $240,000.
- Current assets will increase by $240,000, with no change to the current liabilities.
- Current assets will not increase, but current liabilities will increase by $240,000.

B5 List

- Current assets will decrease by $40,000, and current liabilities will decrease by $40,000.
- Current assets will decrease by $40,000, and current liabilities will increase by $40,000.
- Current assets will increase by $40,000, and current liabilities will increase by $40,000.
- Current assets will decrease by $40,000, with no change to the current liabilities.
- Current assets will increase by $40,000, with no change to the current liabilities.

B6 List

- Current assets will decrease by $100,000, and current liabilities will increase by $100,000.
- Current assets will increase by $100,000, and current liabilities will decrease by $100,000.
- Current assets will increase by $100,000, and current liabilities will increase by $100,000.
- Current assets will increase by $100,000, with no change to the current liabilities.
- Current liabilities will increase by $100,000, with no change to the current assets.

Exhibits Information

Exhibits included in this item	1. **Working capital alternatives memorandum** 2. **Accounts receivable aging**

Exhibit for Item: **500222**

Exhibit 1: **Working capital alternatives memorandum**

Birch Corp. - Year Ended December 31, year 4

Memorandum - Working Capital Alternatives

To: Finance Manager

The potential working capital management strategies at our disposal as of December 31, year 4, are listed below. All of the strategies have been discussed with willing counterparties, and if a strategy is selected, execution would take place on December 31, year 4. All of the strategies should be considered to be mutually exclusive.

Term loan - option one:
A two-year term loan for $240,000 amortized over 24 months with a 6% interest rate. Interest and principal payments are due at the end of each month, with the first payment due at the end of January, year 5. The principal will be repaid in equal monthly installments over the term of the loan.

Term loan - option two:
A two-year term loan for $240,000 with interest-only payments over the term of the loan at 10% and a balloon repayment of principal at maturity. The first interest payment is due at the end of January, year 5.

Line of credit:
A 12-month line of credit for $240,000 with 3% interest paid monthly, with the first payment due at the end of January, year 5. The company would draw 50% of the full amount at the time of execution of the line of credit, with repayment due at the end of the 12-month period.

Factoring agreement:
The company can factor receivables on a nonrecourse basis at a 12% discount for all of the balances that are less than 61 days overdue.

Sale of delivery trucks:
The company can sell five vehicles from its fleet of delivery trucks and collect $100,000 from the sale. The sale of these vehicles will not impact Birch's operations or ability to serve customers. Birch has no outstanding loans associated with the five vehicles.

Exhibit for Item: **500222**

Exhibit 2: **Accounts receivable aging**

Birch Corp.					
Accounts Receivable Aging as of December 31, year 4					
Customer	**Total balance**	**Current**	**31-60 days**	**61-90 days**	**Over 90 days**
Red Corp.	34,400	--	--	24,000	10,400
Blue, Inc.	19,900	--	--	19,900	--
Peony Co.	116,533	100,033	16,500	--	--
Rose Corp.	33,300	--	--	31,300	2,000
Lily, Inc.	93,500	75,000	--	--	18,500
Crocus Co.	35,000	--	--	5,400	29,600
Mums, Inc.	152,800	134,000	7,800	11,000	--
Carnation Co.	5,200	--	--	5,200	--
Hydrangeas Corp.	13,000	--	--	12,000	1,000
Orchid, Inc.	62,000	--	--	62,000	--
Yellow Corp.	8,700	--	--	8,700	--
Total	**574,333**	**309,033**	**24,300**	**179,500**	**61,500**

Solutions and explanations

Task 1

	A	B
1	**Strategy**	**Impact on elements of Net Working Capital as of December 31, Year 4**
2	Term loan – option one	Current assets will increase by $240,000, and current liabilities will increase by $120,000.
	Current assets will increase by the amount of the term loan, or $240,000. Current liabilities will be the amount of principal owed on the Year 4 balance sheet for Year 5. Principal payments are $10,000 per month, so a total of $120,000 is owed for Year 5.	
3	Term loan – option two	Current assets will increase by $240,000, with no change to the current liabilities.
	Current assets will increase by the amount of the term loan, or $240,000. None of the principal is due for Year 5 (all to be paid at the end of Year 6), so there is no change to current liabilities (note that long-term liabilities will increase by $240,000).	
4	Line of credit	Current assets will increase by $120,000, and current liabilities will increase by $120,000.
	Current assets will increase by the amount drawn on the line of credit, which is $120,000 (50% × $240,000). Current liabilities will also be $120,000, as the full amount of the principal is due at the end of 12 months (ie, December 31, Year 5).	
5	Factoring agreement	Current assets will decrease by $40,000, with no change to the current liabilities.
	Entities can sell their accounts receivable (A/R) to a financing company, which accepts the risk of non-collection and charges a percentage fee for accepting that risk. They also charge an interest rate based on the amount of funds advanced prior to the date collection. Here the combined rate is 12%. The business can only factor A/R < 61 days, or $333,333 ($309,033 + $24,300). The 12% charge is $40,000 ($333,333 × 12%). The company will receive $293,333 in cash (an increase in current assets) but will reduce their A/R by $333,333 (a decrease in current assets). Therefore, current assets will **decrease by a net $40,000** ($333,333 - $293,3330. There is no change in current liabilities as the A/R were factored without recourse (ie, there is no obligation to cover the A/R defaults).	
6	Sale of delivery trucks	Current assets will increase by $100,000, with no change to the current liabilities.
	For selling all five trucks, the company will receive $100,000 in cash, increasing current assets. The sale will reduce long-term equipment and the related long-term contra account, accumulated depreciation. Any gain or loss will be recognized on the income statement. The net impact on current assets is the $100,000 in cash, with no impact on current liabilities.	

Task 2

	A	B
1	**Strategy**	

2	Accounts receivable	$585,000

The balance sheet equation is Assets = Liabilities + Equity (in other words, the debits on the left side of the balance sheet must equal total credits on the right side).
Assets equals current assets (CA) plus long-term assets (LTA).
Generally, liabilities also equal current liabilities (CL) plus long term liabilities (LTL), but in this scenario, the CL are netted against CA to get net working capital (accounts receivable (AR) is unknown).
In other words, the equation is as follows:
[(CA – CL) + AR + LTA] = LTL + Equity
$2,105,000 + AR + $15,190,000 = $7,500,000 + $10,380,000
AR = $585,000

Blueprint Information

CSO: 003.002.002

Skill: Analysis

Representative task: Distinguish between corporate banking arrangements, including establishment of lines of credit, borrowing capacity and monitoring of compliance with debt covenants in order to determine the effects on the working capital of a given entity.