



**California  
Subject  
Examinations for  
Teachers®**

**TEST GUIDE**

**AGRICULTURE  
SUBTEST III**

**Sample Questions and Responses  
and Scoring Information**

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## Sample Test Questions for CSET: Agriculture Subtest III

Below is a set of multiple-choice questions and constructed-response questions that are similar to the questions you will see on Subtest III of CSET: Agriculture. You are encouraged to respond to the questions without looking at the responses provided in the next section. Record your responses on a sheet of paper and compare them with the provided responses.

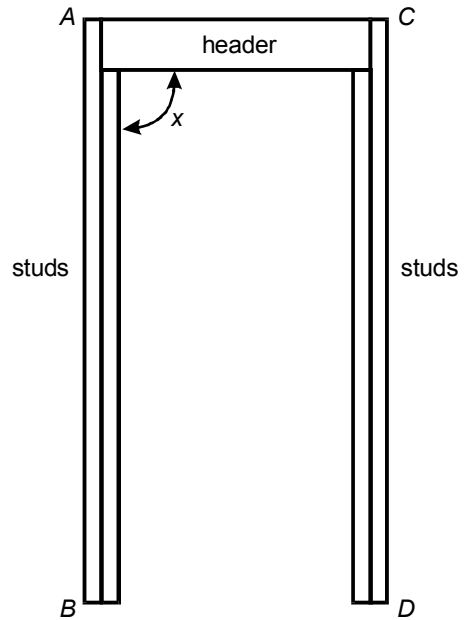
1. Demand for an agricultural product is generally more elastic in which of the following circumstances?
  - A. The product has well-established cultural or traditional value.
  - B. The average consumer uses only a very small part of his or her budget to purchase the product.
  - C. Many different substitutes for the product are available.
  - D. The product is viewed by most consumers as a necessity rather than a luxury.
2. Which of the following is the most important function of agricultural industry trade associations such as the American Dairy Association?
  - A. engaging in collective bargaining with workers to establish wage and benefit standards for the industry
  - B. lobbying government agencies and legislatures concerning laws and regulations that affect the industry
  - C. purchasing, processing, and distributing industry products produced by its members
  - D. providing low-interest start-up loans for entrepreneurs who are entering the industry
3. A company is developing a marketing plan for a rototiller that has been on the market for some time but is not selling well. In conducting a market survey for the tiller, it would be most important for the company to:
  - A. include questions about the perceived strengths and weaknesses of the tiller.
  - B. ensure that potential respondents to the survey are chosen at random from the general population.
  - C. include questions about the perceived strengths and weaknesses of other products offered by the company.
  - D. ensure that only people who have purchased the tiller are included in the survey.
4. Which of the following is the best example of a value-added product that may be produced and sold at a local farm stand?
  - A. apples sold by the bushel or peck
  - B. pick-your-own raspberries
  - C. arrangements of freshly cut flowers
  - D. sweet corn sold by the dozen

5. An entrepreneur who lives in a farming community would like to open a small shop for servicing and repairing farm machinery. Which of the following should be the entrepreneur's *first* step in developing a business plan for this venture?
- A. examining local zoning ordinances and board of health regulations to identify potential locations for the shop
  - B. gathering information about the size of the potential market and number of potential competitors in the area
  - C. meeting with potential backers in the local financial community to secure the necessary capital to start the business
  - D. consulting with an accountant to develop a cash-flow statement for the first year of operation
6. A team of managers has been asked by the board of directors of an agricultural supply company to make recommendations about a marketing plan for a new product. The team is given several proposals to consider that were developed by the marketing department. Which of the following would be the most important advantage of using a consensus model of decision making when making final recommendations to the board?
- A. Final recommendations to the board would represent a compromise of the best elements of all proposed plans.
  - B. Members of the team would be more likely to be supportive of the final proposal.
  - C. Team members would have the opportunity to present alternative recommendations to the board.
  - D. All members of the team would share equally in the development of the final recommendations.

7. The liquidity of an agricultural business refers to the ability of the business to:
- A. convert assets into cash without disrupting normal operations.
  - B. make a profit after all expenses have been paid.
  - C. pay off all its debts without selling any assets.
  - D. take on new debt in the expectation of future profits.
8. In the past, crop losses from natural disasters such as hurricanes, floods, or early freezes often have been catastrophic and widespread. In spite of this, farmers generally have not purchased crop insurance from private companies to cover losses from such disasters because:
- A. private companies do not provide insurance at any price that will cover losses due to natural disasters.
  - B. very few farmers in the United States are affected by natural disasters in any particular year.
  - C. the government traditionally has provided disaster relief to farmers affected by natural disasters.
  - D. crop losses are considered normal and their costs are built into the pricing of agricultural products.
9. A farmworker must drive a tractor through several gates on a farm. The most important safety precaution for the worker to take when dismounting from the tractor to open or close a gate is to:
- A. put the transmission in neutral.
  - B. block all four wheels.
  - C. turn the wheels to one side.
  - D. shut the engine off.
10. A farmer and his helper are using a wire cable attached to a small tractor to move large boulders in a field. In order to prevent injuries during this operation, it would be most important for the farmer to:
- A. use a slip knot to tie the cable around the boulder to provide a tight connection and prevent slipping when force is applied.
  - B. avoid overloading the cable by asking the helper to use a crowbar or other lever to help get the boulder moving from the stationary position.
  - C. place pieces of wood between the cable and the boulder to prevent wear due to chafing and possible failure of the cable.
  - D. make sure that the helper stands well clear of the cable when it is under tension in case it breaks and snaps back through the air.

11. Which of the following best describes the function of flux in shielded metal arc welding (SMAW)?
- A. reducing the brittleness of the joint by slowing the rate at which the filler material cools
  - B. removing oxide films on the joint surfaces and preventing oxidation that may interfere with bonding
  - C. preventing shifting of the pieces until the weld has fully cooled and hardened
  - D. adding elastic fibers to the weld to increase its tensile strength and the flexibility of the joint

12. Use the illustration below to answer the question that follows.



Which of the following is the most effective way to ensure that the door frame shown above is square?

- A. Use a tape measure to ensure that the diagonals  $AD$  and  $BC$  are equal in length.
- B. Use a tape measure to ensure that the side jambs are equal in length.
- C. Use a protractor to measure angle  $x$  to ensure that it is 90 degrees.
- D. Use a four-foot level to ensure that the head jamb is level.

13. Class 200 polyvinyl chloride (PVC) pipe is generally used under which of the following conditions?
- A. household plumbing systems
  - B. outside areas that experience freezing temperatures
  - C. sprinkler systems for lawns and shrubs
  - D. pressurized waterlines from the street to houses
14. Which of the following components of the drivetrain allows the wheels of a tractor to be disconnected from the engine during idling or when starting?
- A. clutch
  - B. differential
  - C. crankshaft
  - D. universal joint
15. Center-pivot sprinkler systems were originally designed to use large sprinklers mounted on towers high above the crop. Many newer systems are designed with smaller sprinklers that hang just above crop level. Which of the following is one advantage of this newer design?
- A. Water is applied only to plants growing in the crop row and not to the area between the rows.
  - B. The system takes less time to rotate 360° and water the entire field.
  - C. The amount of water used can be varied to match the needs of the individual plants.
  - D. Less water is lost to evaporation as it falls to the ground.

**16. Use the information below to complete the exercise that follows.**

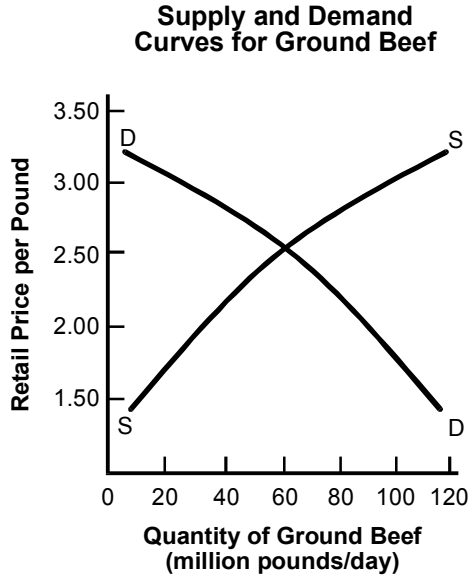
Imagine that you are leading a group that is meeting to achieve a particular goal. The individuals in the group represent a wide range of cultural backgrounds.

Using your knowledge of leadership and group dynamics, write a response in which you:

- describe at least two leadership actions that you would take to lead this group effectively in this situation; and
- explain the rationale for each of the actions you have described.

17. Use the information below to complete the exercise that follows.

Imagine that you are the manager of an agribusiness firm that markets ground beef. Supply and demand for ground beef are depicted in the graph below.



A single cow on a farm in Texas is diagnosed with bovine spongiform encephalopathy (BSE), or mad cow disease. Given this event, write a response in which you:

- graph and explain the most likely short-term change to supply and demand for ground beef; and
- discuss how market price and total income would be affected by this event.

18. **Use the information below to complete the exercise that follows.**

Imagine that you have to train a worker in the safe and proper use of a self-propelled swather.

Using your knowledge of equipment safety, write a response in which you:

- identify at least three hazards associated with operating this piece of equipment; and
- describe plans for training a worker regarding the main safety practices and precautions that should be used to avoid these hazards while using this equipment.



# Annotated Responses to Sample Multiple-Choice Questions for CSET: Agriculture Subtest III

## Agricultural Business and Economics

1. **Correct Response: C.** (SMR Code: 5.1) Demand is said to be elastic for a product when demand is highly responsive to changes in price. When many different substitutes for a product are available, demand for the product is likely to be closely correlated with its price. Thus, consumers are likely to switch to a substitute when the price of the product rises and switch back to the product when its price falls.
2. **Correct Response: B.** (SMR Code: 5.1) Agricultural industry trade organizations, unlike agricultural cooperatives, are not formed by a union of individual producers. The primary purpose of such organizations is to represent the interests of the industry as a whole, rather than those of individual producers, in dealing with the public and with government. One function of these organizations is to enhance the industry's image in the public through public relations campaigns. Another important function is to lobby state and federal government agencies and legislatures concerning laws and regulations that may affect the industry.
3. **Correct Response: A.** (SMR Code: 5.2) One purpose of a market survey is to gather information that can be used to develop a marketing campaign for increasing sales of a product. In this case, it is most important to determine why the rototiller is not selling well. Data regarding the customer perceptions about the rototiller's strengths and weaknesses may help answer this question as well as help guide the development of a marketing campaign to increase sales.
4. **Correct Response: C.** (SMR Code: 5.2) A value-added product is a product in which the value has been increased by some form of processing or handling. Arrangement of flowers increases the value of the flowers compared to pick-your-own flowers, or flowers that are picked and sold by the piece or in bunches.
5. **Correct Response: B.** (SMR Code: 5.3) All of the responses given are legitimate steps in developing a business plan for opening a new business. However, the entrepreneur must first determine if an area can support the business before going on to the next steps. If the area cannot support the planned business, then the other steps in developing a business plan are irrelevant.
6. **Correct Response: B.** (SMR Code: 5.3) Consensus decision making means that all members of a decision-making body (e.g., team, committee) agree to support the final decision of the group. The decision may or may not represent a compromise, some members may have had more input than others, and some members may be more enthusiastic than others about the decision, but arriving at consensus means that all members agree to support the decision.
7. **Correct Response: A.** (SMR Code: 5.4) Liquidity refers to the ability of a business to convert assets into cash. Liquidity is determined both by the nature of the assets themselves (e.g., a farmer's crop is more liquid than the farm buildings) and by the current market for the assets.
8. **Correct Response: C.** (SMR Code: 5.4) Purchasing insurance for crop losses due to large-scale natural disasters adds another fixed cost to the farmer for producing a crop. Such disasters are likely to be uncommon but widespread when they do occur. In the past, the federal government has provided disaster relief for farmers hit by natural disasters. Most farmers have come to rely on this relief as de facto insurance for disaster-related crop losses.

## Agricultural Systems Technology

9. **Correct Response: D.** (SMR Code: 6.1) Many tractor operators are injured when getting on or off the tractor. Tractors may roll forward or back and crush an individual, or the individual may catch a limb in a moving part such as the PTO. The most effective way to prevent these accidents is to shut the tractor engine off before dismounting.
10. **Correct Response: D.** (SMR Code: 6.1) Metal cables attached to a winch or tractor to pull a load are under a great deal of tension. If a cable snaps, the free ends can whip around with a great deal of force and cause serious injury to anyone in the vicinity.
11. **Correct Response: B.** (SMR Code: 6.2) Oxide films on metal surfaces can prevent bonding of the surfaces during welding. Flux chemically combines with these films and removes them during the welding process.
12. **Correct Response: A.** (SMR Code: 6.3) According to geometric principles, diagonals drawn from corner to corner of a four-sided figure will be equal only if the sides are parallel and the angles between the sides are ninety degrees (e.g., the figure is a rectangle or a square). For the door frame that is shown, the only effective way to ensure that the frame is square is to measure the diagonals  $AD$  and  $BC$ .
13. **Correct Response: C.** (SMR Code: 6.3) Class 200 polyvinyl chloride (PVC) pipe is used for irrigation systems that do not experience very high water pressures or freezing temperatures.
14. **Correct Response: A.** (SMR Code: 6.4) The drivetrain of a tractor is responsible for transmitting the movement produced by the pistons to the wheels. It is important when starting the engine that it be free of the load represented by the wheels. The clutch separates the components of the engine (e.g., pistons, crankshaft) from the transmission and driveshaft. Disengaging the clutch separates the motor from the rest of the drivetrain, while engaging the clutch connects the motor to the rest of the drivetrain and allows power to be transmitted to the wheels.
15. **Correct Response: D.** (SMR Code: 6.5) Water from sprinkler heads mounted high above the crop has to fall a long distance through the air before contacting the crop. In these systems, droplets are exposed to the lower humidity of the surrounding air for a relatively long time, which leads to a high evaporation rate of the water as it falls from the sprinkler head. Evaporation rates are lower with newer systems in which sprinklers are mounted closer to the ground.

# Examples of Responses to Sample Constructed-Response Questions for CSET: Agriculture Subtest III

## Agricultural Business and Economics

### Question #16 (Strong Response)

In working with a group whose members represent a wide range of cultural backgrounds, it is important to bring the group together around a common goal while acknowledging and respecting individual differences. The leader of the group can do this both by directing the group and by setting an example. Initially, the leader can make sure all are participants feel welcome and have each member introduce him- or herself and provide a bit of background information. The leader can define the task before the group in ways that are clear and meaningful to all. As discussion unfolds, the leader can draw all members in, make sure all are heard, and acknowledge the contributions of each.

Welcome and introductions make participants feel comfortable and encourage them to contribute their thoughts and ideas. Defining the task clearly promotes constructive ideas. Drawing all members in provides richer discussion and communicates the message that all are valued.

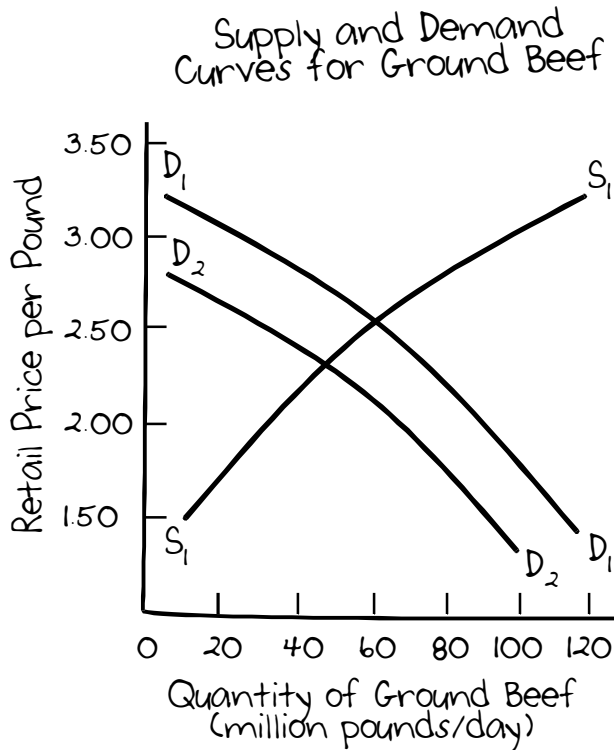
**Question #16 (Weak Response)**

It can be extremely challenging to work with a group that is culturally diverse. People of different cultural backgrounds may approach a task in different ways. Members of some groups may not respect members of other groups. Some may be difficult to understand if English is not their first language.

The leader can make a difference in this situation. Without strong leadership the discussion may wander off topic. The leader must have a firm hand in bringing the members back on topic if they digress. By sticking to the topic the leader will ensure that the group achieves the goal it set out to accomplish. This may require setting time limits on members who do not stay on the topic, but in the long run it is effective.

Question #17 (Strong Response)

The discovery of a cow with BSE will cause a drop in demand due to consumer fears of eating contaminated meat. The supply curve will be unaffected in the short term. This is represented by the following graph:



This reduction in demand along with an unchanged supply will cause the market price of beef to drop and total income of producers to decrease.

Question #17 (Weak Response)

The discovery of just one case of BSE will likely have no effect either on supply or on demand since BSE is not very contagious and the chance of passing it to consumers is small. Market price and total income of producers are likely to be virtually unchanged.

## Agricultural Systems Technology

### Question #18 (Strong Response)

The self-propelled swather must be treated with great respect and used with great attention to safety. These machines have rotating power takeoff shafts, which are not always shielded. They have sharp sickle bars, which can cause very deep and serious cuts. The gathering reels can push a person into the cutter bar. They are large and heavy and cannot be stopped instantly.

In training a new user of the self-propelled swather, the trainer should emphasize the importance of turning the machine off before making any repairs or removing or replacing any parts. The trainer should demonstrate the proper use of safety shields and make sure that all shafts are properly shielded. Also, the new operator should be cautioned never to allow riders since the machine could not be stopped in time if a person were to fall into the path of the cutter. A good first-aid kit should be carried at all times.

**Question #18 (Weak Response)**

The self-propelled swather can be a lethal machine, and must be operated with great care. Each year there are many accidents involving this equipment, accidents that could be avoided if simple safety precautions were observed. Many new operators do not think safety is important, and it is the responsibility of experienced operators to be sure they know how important it is. One way to make this clear is to describe various accidents and injuries that have occurred because safety precautions were not taken. If new operators understood that they too could be seriously injured they would be more likely to be careful.

## Scoring Information for CSET: Agriculture Subtest III

Responses to the multiple-choice questions are scored electronically. Scores are based on the number of questions answered correctly. There is no penalty for guessing.

There are three constructed-response questions in Subtest III of CSET: Agriculture. Each of these constructed-response questions is designed so that a response can be completed within a short amount of time—approximately 10–15 minutes. Responses to the constructed-response questions are scored by qualified California educators using focused holistic scoring. Scorers will judge the overall effectiveness of your responses while focusing on the performance characteristics that have been identified as important for this subtest (see below). Each response will be assigned a score based on an approved scoring scale (see page 18).

Your performance on the subtest will be evaluated against a standard determined by the California Commission on Teacher Credentialing based on professional judgments and recommendations of California educators.

### Performance Characteristics for CSET: Agriculture Subtest III

The following performance characteristics will guide the scoring of responses to the constructed-response questions on CSET: Agriculture Subtest III.

<b>PURPOSE</b>	The extent to which the response addresses the constructed-response assignment's charge in relation to relevant CSET subject matter requirements.
<b>SUBJECT MATTER KNOWLEDGE</b>	The application of accurate subject matter knowledge as described in the relevant CSET subject matter requirements.
<b>SUPPORT</b>	The appropriateness and quality of the supporting evidence in relation to relevant CSET subject matter requirements.

### Scoring Scale for CSET: Agriculture Subtest III

Scores will be assigned to each response to the constructed-response questions on CSET: Agriculture Subtest III according to the following scoring scale.

SCORE POINT	SCORE POINT DESCRIPTION
3	<p><b>The "3" response reflects a command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Agriculture.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is fully achieved.</li> <li>• There is an accurate application of relevant subject matter knowledge.</li> <li>• There is appropriate and specific relevant supporting evidence.</li> </ul>
2	<p><b>The "2" response reflects a general command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Agriculture.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is largely achieved.</li> <li>• There is a largely accurate application of relevant subject matter knowledge.</li> <li>• There is acceptable relevant supporting evidence.</li> </ul>
1	<p><b>The "1" response reflects a limited or no command of the relevant knowledge and skills as defined in the subject matter requirements for CSET: Agriculture.</b></p> <ul style="list-style-type: none"> <li>• The purpose of the assignment is only partially or not achieved.</li> <li>• There is limited or no application of relevant subject matter knowledge.</li> <li>• There is little or no relevant supporting evidence.</li> </ul>
U	<p><b>The "U" (Unscorable) is assigned to a response that is unrelated to the assignment, illegible, primarily in a language other than English, or does not contain a sufficient amount of original work to score.</b></p>
B	<p><b>The "B" (Blank) is assigned to a response that is blank.</b></p>