

2006 Iowa FFA Association Dairy Foods CDE
Written Exam

1. Evaporated milk is produced by removing part of the water. From a mathematical standpoint, if you start with whole milk and reduce the volume by _____, the resulting product would contain _____ as much milk fat by volume.
 - a. 100%; 50%
 - b. 1/3; 1/3
 - c. adding milk fat; 3.5%
 - d. half; twice
2. _____ breaks up and disperses milk fat throughout milk, resulting in a smooth, uniform texture. The process produces a _____, and prevents the milk components from separating.
 - a. Homogenization; colloid
 - b. Pasteurization; sterile liquid
 - c. Fortification; superfluid
 - d. Addition of nutraceuticals; colloid
3. According to the American Academy of Pediatrics, infants can be fed whole cow's milk ...
 - a. beginning at two months of age.
 - b. beginning at 12 months of age.
 - c. beginning at two years of age.
 - d. after they have all of their teeth.
4. Individuals with lactose intolerance may be able to consume _____. Lactose intolerance is the inability to digest _____.
 - a. Sweetened-Condensed milk; casein
 - b. Lactose-Enhanced milk; lipids
 - c. Lactose-Reduced milk; lactose
 - d. Whole-unpasteurized milk; lactic acid producing bacteria
5. Which of the following statements best represents the characteristics of organic milk?
 - a. Organic milk does not contain hormones.
 - b. Unlike regular milk, organic milk is tested for the presence of antibiotics.
 - c. Organic milk is more nutritious than regular milk because of the strict feeding regulations placed upon the producers of organic milk.
 - d. Organic milk is nutritionally identical to regular milk.
6. Reduced-fat cheese is defined as...
 - a. 75% less fat per reference amount than its full fat counterpart.
 - b. 50% less fat per reference amount than its full fat counterpart.
 - c. 25% less fat per reference amount than its full fat counterpart.
 - d. less than 0.5 grams of fat per reference amount.
7. Compared to other cheeses, cottage cheese is...
 - a. lower in calcium content by volume because 50% to 75% of the whey is removed.
 - b. higher in moisture content by volume because 50% to 75% additional whey is added.
 - c. higher in fat content by volume because 50% to 75% additional whey is added.
 - d. higher in fat content because of the live bacteria cultures present in the product.
8. Sherbet...
 - a. contains 1% to 2% milk fat and 2% to 5% total milk solids.
 - b. contains 1% to 2% milk fat and 50% total milk solids.
 - c. contains less sugar than ice cream.
 - d. contains more fat than ice cream.

9. Emulsifiers are an important ingredient in ice cream. Emulsifiers _____, and reduce the formation of ice crystals.
- keep fat dispersed and in suspension
 - are not needed in frozen custard-type ice creams
 - prevent casein from becoming rancid
 - are rarely used when pasteurized milk is used
10. In ice cream production, overrun is a measure of the _____.
- amount that ice cream expands beyond the container as it freezes.
 - excess production beyond consumer demand for the product.
 - volume of air whipped into the ice cream mix.
 - degree to which ice crystals form when ice cream freezes.
11. High quality ice creams have...
- lower overrun.
 - higher overrun.
 - lower fat content.
 - half as much lactose as lower quality ice creams.
12. Which of the following statements most clearly represents the facts about the long-standing debate about which product is healthier: butter or margarine?
- Butter is high in trans fats that can increase blood cholesterol levels, and margarine contains cholesterol.
 - Butter is lower in trans fats that can increase blood cholesterol levels, but butter does contain cholesterol.
 - Margarine is lower in both trans fats and cholesterol.
 - Margarine has fewer calories than butter.
13. Which statement is true about creating volume when whipping cream?
- Light whipping cream, whipped at room temperature, will create the greatest volume.
 - Heavy whipping cream that has been chilled before whipping will create the greatest volume.
 - The fat content affects the volume of whipped cream, but temperature does not affect volume.
 - The temperature of the cream affects the volume of whipped cream, but fat content does not affect volume.
14. Cow's milk allergy develops in less than 3% of infants,...
- and by age 6, 15% of children will have developed allergies to cow's milk.
 - but eliminating allergenic foods from the mother's diet during pregnancy will prevent the food allergy in infants.
 - because human milk is similar in content to cow's milk, the American Academy of Pediatrics does not recommend that infants be breastfed until after 12 months of age.
 - however, in most of these infants, the reactivity to cow's milk protein is usually outgrown by 3 years of age.
15. Scientific evidence ...
- shows that the sugar in chocolate milk adheres to the teeth more readily than sugars in other foods such as candy or raisins.
 - fails to show that consuming chocolate milk will increase the likelihood that children will develop dental caries.
 - shows that consuming chocolate milk greatly increases the likelihood that children will develop dental caries.
 - shows that drinking chocolate milk is the best way for children to obtain the recommended daily allowance of calcium.
16. Cow's milk protein that is rich in lysine...
- is not needed in the average diet because plant proteins are also high in lysine.
 - compliments many plant proteins that are low in lysine.
 - is also high in the sulfur amino acids (methionine and cystine).
 - can cause a lysine imbalance if more than 4 cups of milk are consumed per day.

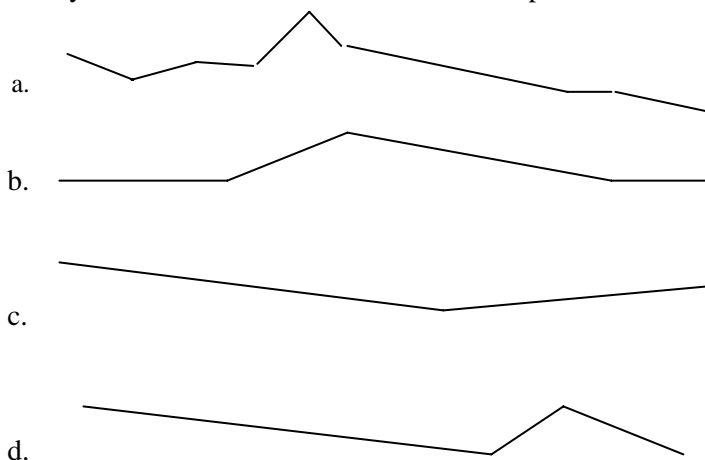
17. Some of the research about the health benefits of dairy products are preliminary and will require more research. In the article “Beyond Calcium: The Protective Attributes of Dairy Products and Their Constituents”, sphingolipids were marked with an asterisk meaning clinical trials were still needed to confirm the results in _____ trials. These trials are needed to confirm the results of animal and cell-culture studies, and formulate a more direct connection to human nutrition.
- source-response
 - DNA
 - human
 - fistulated cow
18. Conjugated linoleic acid (CLA), which is found primarily in dairy products and ruminant meat, has been the subject of recent research. Research indicates that CLA may...
- optimize bone health
 - modulate blood lipids to reduce the risk of cardiovascular and heart disease.
 - enhance vitamin E absorption
 - reduce the risk of colon cancer.
19. Dannon is marketing two new products (see Appendices A & B), Activia and DanActive which contain live bacteria cultures. These products could be best described as:
- antibiotics
 - probiotics
 - prebiotics
 - nanobiotics
20. Dannon claims that these products (Activia & DanActive) create health benefits by influencing the internal ecosystem (microflora) of the digestive tract. To be effective these bacteria cultures must...
- be live when they reach the digestive tract.
 - kill pathogenic bacteria in the digestive tract.
 - be taken with antibiotics.
 - be consumed with other nutraceuticals.
21. ‘Functional foods’ is one of the fastest growing categories of foods. Which of the following factors is not a good example for demonstrating why research into these types of foods has increased
- advances in nutritional science, agricultural technologies, and processing techniques
 - the increase in the U.S. population over age 65
 - decreased health care costs
 - increased consumer consciousness about health and nutrition
22. Designed to increase milk production in dairy cows, recombinant bovine somatotropin (rBST) was approved for commercial use, in the United States, in _____.
- 1980
 - 1987
 - 1994
 - 2000
23. Milk contains _____, which helps build red blood cells that carry oxygen and nutrients to help fuel your body.
- Niacin
 - Vitamin B-12
 - Vitamin D
 - Vitamin C
24. Which of the following nutrients helps your body absorb calcium?
- Niacin
 - Potassium
 - Vitamin D
 - Vitamin A

25. Results of the “St. Louis School Milk Test” indicated:
 - a. new milk flavors generated sales growth
 - b. students prefer cardboard milk containers over plastic containers
 - c. attractiveness of the milk container did not appear to be a factor
 - d. milk sales promotions did not influence total milk sales
26. _____ is preparing to launch a new anti-milk campaign to run in high school newspapers. The graphic shows a young man spitting milk, and the caption reads, “If you knew how dairy cows suffered, you’d spew. Got milk?”
 - a. PETA
 - b. Sustainable Table
 - c. The Iowa Farm Bureau
 - d. The Dairy Promotion Board
27. The Meatrix II is an animated website which attempts to...
 - a. discourage the consumption of meat and meat products by children.
 - b. discourage the consumption of milk and milk products by children.
 - c. discourage consumers from buying products produced by factory farms.
 - d. base all of its claims on solid scientific research.
28. The USDA Food Pyramid (MyPyramid.gov)...
 - a. factors age, gender, and physical activity level to calculate a recommended diet.
 - b. Factors grains, vegetables, fruits, milk and meats to project a recommended diet.
 - c. Is supported by the promotional group PETA.
 - d. recommends low-fat milk products to increase LDL (low-density lipoprotein) in the diet.
29. The USDA Food Pyramid recommends _____ consumption _____.
 - a. milk; as a source of lipids
 - b. milk; as a source of potassium
 - c. milk; as a source of iron.
 - d. milk; which is important for adult bone development.
30. Lactase, lipase and proteinase are all examples of _____.
 - a. peptide bonds
 - b. inhibitors
 - c. enzymes
 - d. emulsifiers

Analyze & Interpret Information

Utilize the attached references to answer these questions.

31. Based upon USDA: Dairy Products Per Capita Consumption data, which of the following trend lines most accurately reflects fluid milk and cream consumption from 1909 to 2004?



32. Based upon USDA: Dairy Products Per Capita Consumption data, which of the following values represents the percent change in consumption of ice cream from 1909 to 2004?

- 9.625 % increase in consumption
 - 10.38 % increase in consumption
 - 862.5 % increase in consumption
 - 962.5 % increase in consumption
33. Based upon USDA: Dairy Products Per Capita Consumption data, which of the following products has shown the greatest % change in consumption?
- Fluid milk and cream
 - Skim milk (Bulk and canned)
 - Frozen yogurt
 - American Cheese
34. Which of the following statements most accurately describes the relationship between the change in the United States population, and the change in beverage consumption?
- From 1984 to 2004 the total United States population grew 24.5%, while diet soft drink consumption grew 5.15 %.
 - From 1984 to 2004 the total United States population grew 24.5% while total coffee consumption grew only 8.2%.
 - From 1984 to 2004, the total United States population grew 24.5%, while bottled water consumption grew 415%.
 - From 1984 to 2004, the % change in total carbonated soft drink consumption showed less growth than the percent change of the total United States population.

35. Assume a 16 year-old, male consumed 3 cups of whole milk per day. What percent of their recommended daily intake for calcium would be provided by the whole milk?
- 0%
 - 22.4 %
 - 67.2% %
 - 100 %
36. With respect to the scenario in question #35, how many milligrams of niacin would he receive per day?
- .21
 - .63
 - 16
 - 0
37. With respect to the scenario in question #35, 3 cups of whole milk per day would be a better source of _____ than _____.
- Calcium, niacin
 - Niacin, calcium
 - Phosphorus, calcium
 - Magnesium, calcium
38. With respect to the scenario in question #35, 3 cups of chocolate, lowfat milk would provide...
- 157.57 calories.
 - more total fat than 3 cups of 2% milk.
 - More calcium than 3 cups of 1% milk.
 - 15.7% of the recommended calorie intake per day.
39. Based upon the changes in beverage consumption over the past 20 years, nutritionists are probably most concerned about...
- adequate calorie intake by teenagers.
 - adequate calcium intake by teenagers.
 - adequate carbohydrate intake by teenagers.
 - adequate caffeine intake by teenagers.
40. Common sports drinks such as Gatorade supply carbohydrates, as well as fluids and electrolytes lost through sweat. Recent research suggests that adding protein to the mix may speed the recovery time. Based upon this research, _____ may be the best sport's drink for young athletes.
- Gatorade Fierce
 - Mountain Dew
 - Water
 - Lowfat Chocolate milk

KEY – 2006 Dairy Foods Exam

1. D
2. A
3. B
4. C
5. D
6. C
7. A
8. A
9. A
10. C
11. A
12. B
13. B
14. D
15. B
16. B
17. C
18. D
19. B
20. A
21. C
22. C
23. B
24. C
25. A
26. A
27. C
28. A
29. B
30. C
31. A
32. C
33. B
34. C
35. C
36. B
37. A
38. D
39. B
40. D