



Practice Questions for the Mathematics Challenge Exam

DIRECTIONS

Read each question carefully and choose the best answer.

There are 30 practice questions included in this document, but the challenge exam has only 25 questions. You may not use notes, textbooks, or other references during the exam. The last page of this document contains information you are expected to know when you take the exam.

You will have 90 minutes to complete the challenge exam. A passing score on the challenge exam is 18 correct out of 25 (72%).

4. How many pounds of garlic would you need to purchase if you wanted to make three times the original recipe?
- (a) 1.5 pounds (b) 1.7045 pounds
(c) 4.5 pounds (d) 5.1136 pounds
5. What is the total cost of the 7 pints of white wine purchased for the given recipe?
- (a) \$12.50 (b) \$14.92
(c) \$9.42 (d) \$19.89
6. What is the total cost of the star anise needed for the given recipe?
- (a) \$1.32 (b) \$2.07
(c) \$3.96 (d) \$6.19
7. How many bunches of scallions would you need to purchase if you wanted to make $2\frac{1}{2}$ times the given recipe?
- (a) 6.22 bunches (b) 7.588 bunches
(c) 15.55 bunches (d) 18.97 bunches
8. What is the cost per pint of the chicken stock?
- (a) \$0.25 (b) \$0.50
(c) \$2.00 (d) \$4.00
9. What is the cost of the 8 bunches of chives needed for the given recipe?
- (a) \$5.52 (b) \$5.30
(c) \$5.75 (d) \$5.96
10. Food cost percent is defined as the percent of sales that covers the cost of ingredients. If the total recipe cost for the given recipe is \$371.71, and you want to achieve a 22% food cost for the dish, what should the approximate selling price per portion be?
- (a) \$3.63 (b) \$5.12
(c) \$13.52 (d) \$16.90
11. You currently sell one portion of this recipe for \$15.95. If the cost per portion is \$3.26, then the cost per portion represents what percent of the selling price?
- (a) 4.89% (b) 12.69%
(c) 51.99% (d) 20.43%

For questions 12 – 30, use the information provided to answer each question.

12. You have purchased 10 pounds of asparagus for \$15.00. If the yield for trimmed asparagus is 60%, then what is the cost of each pound of trimmed asparagus?
- (a) \$2.50 (b) \$1.50
(c) \$0.90 (d) \$2.10
13. Which of the following is equivalent to 24 fluid ounces?
- (a) 1 quart (b) 48 teaspoons
(c) 48 tablespoons (d) 811.2 milliliters
14. One liter is always equivalent to
- (a) 1000 milliliters (b) 28.35 grams
(c) 32 fluid ounces (d) 2.205 cups
15. One cup of water is either equivalent or approximately equivalent to:
- (a) 8 ounces (b) $\frac{1}{2}$ pint
(c) 48 teaspoons (d) all of these
16. A recipe for salsa yields 1 quart and calls for 1 bunch of chopped cilantro. Cilantro has a yield of 72%. How many bunches of cilantro would you need to purchase to make 1 gallon of salsa?
- (a) 16 bunches (b) 6 bunches
(c) 5 bunches (d) 4 bunches
17. A case of lettuce weighs 24 pounds and contains 16 heads of lettuce. If the lettuce has a yield of 72%, and each serving is one quarter of a head, how many servings will you get from this case?
- (a) 16 servings (b) 24 servings
(c) 46 servings (d) 64 servings
18. You have purchased 36 pounds of red peppers. After fabricating them you have 8 pounds 4 ounces of waste. What is the approximate yield percent for these peppers?
- (a) 22.92% (b) 27.75%
(c) 72.25% (d) 77.08%
19. A ratio for lemonade is 3 parts water, 1 part lemon juice, and 2 parts honey. How many quarts of honey do you need to make 3 gallons of lemonade?
- (a) 4 quarts (b) 1 quart
(c) 2 quarts (d) $\frac{1}{2}$ quart

20. A ratio for Café Mocha is 2 parts cream, 1 part coffee, and $\frac{1}{2}$ part chocolate. How many quarts of chocolate should you use with 3 quarts of cream?
- (a) $\frac{1}{3}$ quart (b) $\frac{3}{4}$ quart
(c) $1\frac{1}{2}$ quarts (d) 6 quarts
21. When decreasing a recipe, the factor by which you multiply all the ingredient quantities is
- (a) negative (b) greater than one
(c) less than one (d) impossible to predict
22. Which of the following recipe quantities would indicate that the yield percent should not be applied when calculating a quantity to purchase?
- (a) 4 bulbs of garlic, minced (b) 3 cups of peeled and cored apples
(c) 10 ounces of sliced onions (d) all of these
23. A recipe for chocolate pudding yields fifty $\frac{1}{2}$ cup servings. By what factor should you multiply all the ingredient quantities to make twenty 1-cup portions?
- (a) 0.4 (b) 0.8
(c) 1.25 (d) 2.5
24. You have purchased a 30-pound case of whole pears. A recipe calls for 2 pounds of peeled, cored and thinly sliced pear per tart. If the yield percent for fabricated pears is 76.6%, how many tarts will you be able to make with the case?
- (a) 15 tarts (b) 11 tarts
(c) 19 tarts (d) 45 tarts
25. One cup of salt weighs 9.41 ounces. How many cups could you measure from 3.125 liters of salt?
- (a) 8.4185 cups (b) 13.2031 cups
(c) 11.2247 cups (d) 9.2968 cups
26. A recipe for mango custard calls for 1500 grams of peeled and diced mango. Approximately how many ounces of diced mango must be used?
- (a) 11 ounces (b) 44 ounces
(c) 3 ounces (d) 53 ounces
27. Your target food cost percent in your restaurant is 25%. You calculate that a dish is actually running at a 30% food cost. Which of the following actions would help you get closer to your target of 25%?
- (a) use more expensive ingredients
(b) increase the portion size so the recipe makes fewer portions
(c) increase the selling price
(d) none of these will help you get closer to your target

ANSWERS

1. D
2. B
3. C
4. C
5. D
6. B
7. D
8. B
9. A
10. C
11. D
12. A
13. C
14. A
15. D
16. D
17. D
18. D
19. A
20. B
21. C
22. A
23. B
24. B
25. B
26. D
27. C
28. A
29. D
30. B

FACTS AND FORMULAS

Some of the questions on the challenge exam use the following information. This information will not be given to you when you take the challenge exam.

1 tablespoon = 3 teaspoons = $\frac{1}{2}$ fluid ounce

1 fluid ounce = 29.59 milliliters

1 C = 8 fluid ounces = 16 tablespoons

1 pint = 2 cups

1 quart = 2 pints

1 liter = 1000 milliliters = 33.8 fluid ounces

1 gallon = 4 quarts

1 ounce = 28.35 grams

1 pound = 16 ounces = 453.6 grams

1 kilogram = 1000 grams = 2.205 pounds

Yield percent = edible portion quantity \div as-purchased quantity

As-purchased quantity \times yield percent = edible portion quantity

Edible portion quantity \div yield percent = as-purchased quantity

Food cost percent = cost per portion \div selling price

Selling price = cost per portion \div food cost percent