
MODESTO JUNIOR COLLEGE
PHARMACY TECHNICIAN CAREER TRAINING COURSE

PRE-PHARMACY CALCULATIONS
2009 EXAMPLE QUESTIONS

The purpose of the Math Qualifying Examination is to measure your basic arithmetic skills and readiness to demonstrate competency in pharmaceutical calculations, a requirement of the Modesto Junior College Technician Training Program.

There are 50 questions on this practice problem set. A passing score would be 35 questions answered correctly (70%).

You must follow directions exactly! If you do not follow directions, your answer would be graded as *incorrect*.

Directions:

1. Answer all the questions in the allotted time of 90 minutes.
 2. You may use scratch paper to work the problems, or you may use a non-programmable calculator.
 3. Place your answer to each question in the space provided.
 4. Calculate answers to three decimal places and round answers to two places.
Examples: $5.174 = 5.17$
 $5.175 = 5.18$
 5. Express fractions in lowest terms unless instructed otherwise.
Example: $\frac{6}{10} = \frac{3}{5}$
 6. If there are “units” associated with the problem, your answer must also display the “units.”
Example: $25 \text{ lb} + 5 \text{ lb} = 30 \text{ lb}$
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1. $10.5 + 16.06 - 32 - 4.11 + 0.9 =$ _____
2. Reduce $\frac{8}{32}$ to lowest terms. _____
3. $\$29.69 + \294.33 _____
4. Enlarge $\frac{4}{5}$ to the equivalent fraction in tenths. _____
5. Change the improper fraction $\frac{8}{3}$ to a mixed fraction. _____
6. Express $\frac{1600}{250}$ as a decimal. _____
7. Express 0.6 as a fraction. _____
8. Express $\frac{3}{5}$ as a percent. _____
9. Express 0.006 as a percent. _____
10. Express 7% as a decimal. _____
11. Express $66\frac{2}{3}\%$ as a ratio in lowest terms. _____
12. Express 1:25 as a decimal. _____
13. Express $(\frac{1}{3} + \frac{3}{5})$ as a decimal. _____
14. Express 40% as a fraction. _____
15. $\frac{1}{200} \div \frac{1}{150} =$ _____
16. Which fraction has the greatest value: $\frac{1}{10}, \frac{1}{15}, \frac{1}{20}$ _____
17. Which decimal has the least value: 0.007, 0.07, 0.7 _____
18. $(0.01 + 0.17) \div (0.5 - 0.44) =$ _____

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19. $0.04 + (0.18/0.2) - 0.32 =$ _____

20. $50.75 \text{ oz} \div 3.5 =$ _____

21. $\frac{1}{2}\%$ of 16 = _____

22. Express 4:10 as a fraction in lowest terms. _____

23. Express 5% as a ratio in lowest terms. _____

24. If $X \geq Y$ and $X = 2$, can $Y = 3$? _____

25. If $X \neq Y$ and $X = 13$, can $Y = 12$? _____

26. If $X = 8$ and $Y < 2$, what is X / Y ? _____

27. Which is smaller: $\frac{3}{5}$ or $\frac{3}{7}$? _____

28. Which is larger: $\frac{2}{7}$ or $\frac{3}{7}$? _____

Find the value of "X" in each of the three following problems:

29. $\frac{450\text{mg}}{150\text{mg}} \times 3 = \text{"X"}$ _____

30. $0.51 / 1.7 \text{ g} \times \text{"X"} = 300$ _____

31. $(\frac{1}{300} \div \frac{1}{150}) \times 1.4 = \text{"X"}$ _____

32. Five equal medication containers contain 50 tablets total. How many tablets are in each container? _____

33. Two pounds (lb) of sugar equals 8 cups. How many lb of sugar are in 1 cup? _____

34. One kilogram (kg) equals 2.2 pounds. How many lb are in 2.5 kg? _____

35. You have a roll of quarters and you must pay \$4.50. How many quarters will you use? _____

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36. This diagnostic test has 50 problems. If you answer ten problems incorrectly, what percentage will you have answered correctly? _____
37. For every six female students in a training class, there are two male students. What is the ratio of female to male students? _____
38. In the question above, there are five male students. What is the total number of students in the class? _____
39. How many grams of salt are in 10 mL of a solution containing 50 g of salt in 200 mL of water? _____
40. Ben had 18 marbles and John had 17 marbles. Ben gave half of his marbles to John. How many more marbles did John have than Ben then? _____
41. Mindy blew up 24 red balloons and 15 white balloons. 7 of the balloons popped. How many balloons did Mindy have then? _____
42. Drew gave 12 marbles to Marcus. Each boy then had 25 marbles. How many more marbles did Drew have than Marcus at first? _____
43. $\frac{1}{3}$ of a pole is painted red. $\frac{1}{2}$ of it is painted blue. Three feet of the pole is painted green. What is the height of the pole? _____
44. Pete the Painter can paint $\frac{5}{6}$ of a room in 90 minutes. How many minutes will it take Pete to paint the entire room? _____
45. Maya bought a sweater at a discount of 25%. She saved \$18. What was the sale price of the sweater? _____
46. Two numbers are in the ratio 5: 7. The difference between the numbers is 12. What is the larger number? _____
47. Anne had 65 cents. She found 25 cents on the sidewalk. She bought a bag of chips for 55 cents. How much money did Anne have then? _____

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48. Kendra learns 12 new spelling words each week. Her goal is to learn 60 new words before her eighth birthday. She has already learned 36 new words. How many more words does Kendra need to learn? _____
49. Marcus had 15 candy bars. He gave 5 to his friend, Jack. He ate 3 of them after dinner. How many candy bars did Marcus have then? _____
50. Jeri is thinking of a mystery number. If she divides it by 9 and then subtracts 7 from it, the result is 1. What is Jeri's mystery number? _____