
MODESTO JUNIOR COLLEGE
PHARMACY TECHNICIAN CAREER TRAINING COURSE

PRE-PHARMACY CALCULATIONS
2009 EXAMPLE QUESTIONS KEY

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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2009 Pharmaceutical Calculations Example Questions = KEY

1. $10.5 + 16.06 - 32 - 4.11 + 0.9 =$ -8.65
2. Reduce $\frac{8}{32}$ to lowest terms. $\frac{1}{4}$
3. $\$29.69 + \294.33 \$324.02
4. Enlarge $\frac{4}{5}$ to the equivalent fraction in tenths. $\frac{8}{10}$
5. Change the improper fraction $\frac{8}{3}$ to a mixed fraction. $2\frac{2}{3}$
6. Express $\frac{1600}{250}$ as a decimal. 6.4
7. Express 0.6 as a fraction. $\frac{3}{5}$
8. Express $\frac{3}{5}$ as a percent. 60%
9. Express 0.006 as a percent. 0.6%
10. Express 7% as a decimal. 0.07
11. Express $66\frac{2}{3}\%$ as a ratio in lowest terms. 2:3
12. Express 1:25 as a decimal. 0.04
13. Express $(\frac{1}{3} + \frac{3}{5})$ as a decimal. 0.93
14. Express 40% as a fraction. $\frac{2}{5}$
15. $\frac{1}{200} \div \frac{1}{150} =$ 0.75
16. Which fraction has the greatest value: $\frac{1}{10}, \frac{1}{15}, \frac{1}{20}$ $\frac{1}{10}$
17. Which decimal has the least value: 0.007, 0.07, 0.7 0.007
18. $(0.01 + 0.17) \div (0.5 - 0.44) =$ 3

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19. $0.04 + (0.18/0.2) - 0.32 =$ 0.62
20. $50.75 \text{ oz} \div 3.5 =$ 14.5 oz.
21. $\frac{1}{2}\%$ of 16 = 0.08
22. Express 4:10 as a fraction in lowest terms. $\frac{2}{5}$
23. Express 5% as a ratio in lowest terms. 1:20
24. If $X \geq Y$ and $X = 2$, can $Y = 3$? NO
25. If $X \neq Y$ and $X = 13$, can $Y = 12$? YES
26. If $X = 16$ and $Y < 2$, what is X / Y ? >8
27. Which is smaller: $\frac{3}{5}$ or $\frac{3}{7}$? $\frac{3}{7}$
28. Which is larger: $\frac{2}{7}$ or $\frac{3}{7}$? $\frac{3}{7}$
- Find the value of "X" in each of the three following problems:
29. $\frac{450\text{mg}}{150\text{mg}} \times 3 = \text{"X"}$ 9
30. $\frac{0.51}{1.7 \text{ g}} \times \text{"X"} = 300$ 1,000 g
31. $(\frac{1}{300} \div \frac{1}{150}) \times 1.4 = \text{"X"}$ 0.7
32. Five equal medication containers contain 50 tablets total. How many tablets are in each container? 10 tablets
33. Two pounds (lb) of sugar equals 8 cups. How many lb of sugar are in 1 cup? $\frac{1}{4}$ pound
34. One kilogram (kg) equals 2.2 pounds. How many lb are in 2.5 kg? 5.5 lb
35. You have a roll of quarters and you must pay \$4.50. How many quarters will you use? 18 quarters

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36. This diagnostic test has 50 problems. If you answer ten problems incorrectly, what percentage will you have answered correctly? 20%
37. For every six female students in a training class, there are two male students. What is the ratio of female to male students? 3:1
38. In the question above, there are five male students. What is the total number of students in the class? 20 students
39. How many grams of salt are in 10 mL of a solution containing 50 g of salt in 200 mL of water? 2.5 g
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? 7 marbles
41. Mindy blew up 24 red balloons and 15 white balloons. 7 of the balloons popped. How many balloons did Mindy have then? 32 balloons
42. Drew gave 12 marbles to Marcus. Each boy then had 25 marbles. How many more marbles did Drew have than Marcus at first? 24 marbles
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? 18 feet
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? 108 minutes
45. Maya bought a sweater at a discount of 25%. She saved \$18. What was the sale price of the sweater? \$54
46. Two numbers are in the ratio 5: 7. The difference between the numbers is 12. What is the larger number? 42
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? 35 cents

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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? 24 words
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? 7 candy bars
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? 72