

PHARMACY TECHNICIAN CALCULATIONS PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://pharmacytechcalc.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

SAMPLE

1. You diluted 40 ml of a 50% dextrose solution with water to a total volume of 100 ml. What is the concentration of dextrose in the new solution?
 - A. 20%
 - B. 25%
 - C. 30%
 - D. 50%
2. If a patient requires 1.5 g of a medication available in 300 mg tablets, how many tablets must the patient take?
 - A. 3 tablets
 - B. 4 tablets
 - C. 5 tablets
 - D. 6 tablets
3. How many grams are in 1 ounce?
 - A. 25.0 g
 - B. 28.3 g
 - C. 29.0 g
 - D. 30.0 g
4. What Centigrade temperature corresponds to 50 degrees Fahrenheit?
 - A. 10 degrees Centigrade
 - B. 12 degrees Centigrade
 - C. 14 degrees Centigrade
 - D. 16 degrees Centigrade
5. A patient has an ampule of digoxin injection containing 500 mcg in 2 ml. How much volume is required to deliver a dose of 0.4 mg?
 - A. 1.6 ml
 - B. 0.8 ml
 - C. 2.0 ml
 - D. 3.2 ml

6. What is the maximum amount of active ingredient in a 20 gm prescription of a 10% solution?
- A. 1 gm
 - B. 2 gm
 - C. 3 gm
 - D. 4 gm
7. What is the difference between 'i.v.' and 'i.m.' medication routes?
- A. 'i.v.' delivers medication into muscles
 - B. 'i.m.' delivers medication directly into veins
 - C. 'i.v.' delivers medication directly into veins
 - D. 'i.m.' is only for oral medications
8. When administering an intramuscular injection, what is the most critical factor to consider?
- A. The size of the needle
 - B. The site of injection
 - C. The temperature of the medication
 - D. The time of day for administration
9. If a child weighs 32 lbs, how much vancomycin should be given per dose at 10mg/kg q 6h IV?
- A. 75 mg
 - B. 100 mg
 - C. 145 mg
 - D. 160 mg
10. What is the days supply for a Z-Pak that contains six azithromycin 250 mg tablets, with directions of 500 mg on the first day, followed by 250 mg once daily until gone?
- A. 4 days
 - B. 5 days
 - C. 6 days
 - D. 7 days

Answers

SAMPLE

1. A
2. C
3. B
4. A
5. A
6. B
7. C
8. B
9. C
10. B

SAMPLE

Explanations

SAMPLE

1. You diluted 40 ml of a 50% dextrose solution with water to a total volume of 100 ml. What is the concentration of dextrose in the new solution?

A. 20%

B. 25%

C. 30%

D. 50%

To determine the concentration of dextrose in the new solution after dilution, start by calculating the total amount of dextrose present in the original solution before dilution. In the original 40 ml of a 50% dextrose solution, the concentration means there are 50 grams of dextrose in every 100 ml of solution. Therefore, in 40 ml of the solution: $\left[\text{Amount of dextrose} = \left(\frac{50 \text{ g}}{100 \text{ ml}} \right) \times 40 \text{ ml} = 20 \text{ g} \right]$ After diluting this solution with water to a total volume of 100 ml, the total amount of dextrose remains unchanged at 20 grams, but now it is spread out over a larger volume of solution. Now, to find the new concentration of dextrose, use the formula for concentration: $\left[\text{Concentration} = \left(\frac{\text{Amount of dextrose}}{\text{Total volume of solution}} \right) \times 100 \right]$ Substituting the known values: $\left[\text{Concentration} = \left(\frac{20 \text{ g}}{100 \text{ ml}} \right) \times 100 = 20\% \right]$

2. If a patient requires 1.5 g of a medication available in 300 mg tablets, how many tablets must the patient take?

A. 3 tablets

B. 4 tablets

C. 5 tablets

D. 6 tablets

To determine how many tablets the patient must take to achieve the required dosage of 1.5 g, it is first essential to convert grams to milligrams, since the medication is available in milligram dosages. 1.5 grams is equal to 1500 milligrams (since 1 gram equals 1000 milligrams). Next, to find out how many 300 mg tablets are needed to reach 1500 mg, you would perform the following calculation: $\left[\text{Number of tablets} = \frac{\text{Total required dosage in mg}}{\text{Dosage per tablet in mg}} = \frac{1500 \text{ mg}}{300 \text{ mg/tablet}} = 5 \text{ tablets} \right]$ Therefore, the patient needs to take 5 tablets to meet the required dose of 1.5 g (1500 mg). This reasoning confirms that the correct answer is 5 tablets, as the calculation accurately reflects the total dosage needed divided by the amount per tablet. If the answer choices had included 5, that would be the right choice based on the calculations performed.

3. How many grams are in 1 ounce?

A. 25.0 g

B. 28.3 g

C. 29.0 g

D. 30.0 g

One ounce is equivalent to approximately 28.35 grams. In practice, it's often rounded to 28.3 grams for simplicity. This conversion is essential for pharmacy technicians as they frequently need to convert between different units of measurement for medication dosages and compounding. The relationship between ounces and grams is part of the metric system versus the customary system. Since one ounce is defined as a specific weight measurement, converting it accurately is crucial for ensuring proper dosing and compliance with prescription standards. Thus, understanding this conversion allows pharmacy staff to provide accurate medication preparations and dispensing, which is vital for patient safety.

4. What Centigrade temperature corresponds to 50 degrees Fahrenheit?

- A. 10 degrees Centigrade
- B. 12 degrees Centigrade
- C. 14 degrees Centigrade
- D. 16 degrees Centigrade

To convert from Fahrenheit to Centigrade, the formula used is: $C = \frac{5}{9} \times (F - 32)$ In this case, substituting the Fahrenheit temperature of 50 degrees into the formula: 1. Subtract 32 from 50: $50 - 32 = 18$ 2. Multiply the result by $\frac{5}{9}$: $C = \frac{5}{9} \times 18$ 3. Calculate: $C = 10$ Thus, 50 degrees Fahrenheit corresponds to 10 degrees Centigrade, making the correct answer 10 degrees Centigrade. This conversion is crucial in understanding temperature changes across different measurement systems, particularly in the medical and pharmacy fields where accurate temperature readings can affect medication storage and administration.

5. A patient has an ampule of digoxin injection containing 500 mcg in 2 ml. How much volume is required to deliver a dose of 0.4 mg?

- A. 1.6 ml
- B. 0.8 ml
- C. 2.0 ml
- D. 3.2 ml

To determine the correct volume needed to deliver a dose of 0.4 mg of digoxin from an ampule containing 500 mcg in 2 ml, it is first essential to convert all units to be consistent. Since the given dose is in milligrams and the concentration in micrograms, converting the dose is the first step. 0.4 mg is equivalent to 400 mcg (since 1 mg = 1000 mcg). Now we know that the ampule contains 500 mcg in a total volume of 2 ml. To find out how much volume is necessary to obtain 400 mcg, we can set up a simple ratio: - The concentration of the ampule is 250 mcg/ml (since $500 \text{ mcg} / 2 \text{ ml} = 250 \text{ mcg/ml}$). - To find the volume required to provide 400 mcg, use the formula: $\text{Volume} = \frac{\text{Desired Dose}}{\text{Concentration}}$ Substituting the known values: $\text{Volume} = \frac{400 \text{ mcg}}{250 \text{ mcg/ml}} = 1.6 \text{ ml}$

6. What is the maximum amount of active ingredient in a 20 gm prescription of a 10% solution?

- A. 1 gm
- B. 2 gm
- C. 3 gm
- D. 4 gm

To determine the maximum amount of active ingredient in a 20 gram prescription of a 10% solution, it's essential to understand how percentages work in the context of solutions. A 10% solution means that there are 10 grams of active ingredient for every 100 grams of solution. In this case, since the prescription is for 20 grams of the solution, we calculate the active ingredient as follows: 1. Calculate what 10% of 20 grams is: - 10% of 20 grams = $(10/100) \times 20 = 2$ grams. This calculation indicates that in a 20 gram volume of a 10% solution, there are 2 grams of the active ingredient present. Thus, the correct answer reflects this calculation, establishing that the maximum amount of active ingredient in this specific prescription of 20 grams is indeed 2 grams.

7. What is the difference between 'i.v.' and 'i.m.' medication routes?

- A. 'i.v.' delivers medication into muscles
- B. 'i.m.' delivers medication directly into veins
- C. 'i.v.' delivers medication directly into veins**
- D. 'i.m.' is only for oral medications

The correct choice describes the intravenous (i.v.) route of medication administration, which involves delivering medication directly into the veins. This method allows for rapid onset of action because the drug enters the systemic circulation immediately. Intravenous administration is commonly used for medications that need to act quickly or when a patient is unable to take medications by mouth. In contrast, intramuscular (i.m.) administration refers to delivering medications directly into the muscle tissue. This method is also used for certain medications but typically has a slower onset compared to the i.v. route because the drug must diffuse into the bloodstream from the muscle. Understanding these routes is crucial for pharmacy technicians as it affects the choice of medication administration based on the clinical situation and the desired speed of therapeutic action.

8. When administering an intramuscular injection, what is the most critical factor to consider?

- A. The size of the needle
- B. The site of injection**
- C. The temperature of the medication
- D. The time of day for administration

When administering an intramuscular injection, the site of injection is the most critical factor to consider because it determines the effectiveness of the medication, the comfort of the patient, and the potential for complications. Different injection sites have varying amounts of muscle mass, blood supply, and risk for nerve or bone injury. For instance, the deltoid muscle is commonly used for vaccinations due to its accessibility, while larger muscles like the gluteus medius can accommodate larger volumes of medication. Choosing the correct site also minimizes discomfort and the risk of complications such as bleeding or infection. Understanding anatomical landmarks is essential to ensure that the needle is placed correctly and does not inadvertently puncture tissues or structures that could cause harm to the patient. Thus, proper site selection directly impacts the safety and efficacy of the intramuscular injection, making it a paramount consideration during administration.

9. If a child weighs 32 lbs, how much vancomycin should be given per dose at 10mg/kg q 6h IV?

- A. 75 mg
- B. 100 mg
- C. 145 mg
- D. 160 mg

To determine the appropriate vancomycin dosage for the child, the first step is to convert the child's weight from pounds to kilograms. The conversion factor is that 1 kilogram (kg) is approximately equal to 2.2 pounds. Therefore, to get the weight in kilograms: $\text{Weight in kg} = \frac{\text{Weight in lbs}}{2.2} = \frac{32 \text{ lbs}}{2.2} \approx 14.55 \text{ kg}$ Next, since the prescribed dosage is 10 mg per kilogram body weight, the amount of vancomycin for this child can be calculated by multiplying the weight in kg by the dosage per kg: $\text{Dose of vancomycin} = \text{Weight in kg} \times \text{Dose per kg} = 14.55 \text{ kg} \times 10 \text{ mg/kg} \approx 145.5 \text{ mg}$ Since drug dosages generally need to be rounded to the nearest appropriate value for practical administration, rounding 145.5 mg gives us approximately 145 mg. Therefore, the correct choice of

10. What is the days supply for a Z-Pak that contains six azithromycin 250 mg tablets, with directions of 500 mg on the first day, followed by 250 mg once daily until gone?

- A. 4 days
- B. 5 days
- C. 6 days
- D. 7 days

To calculate the days supply for the Z-Pak containing six azithromycin 250 mg tablets, we can break down the dosage instructions provided. On the first day, the patient is directed to take a total of 500 mg, which is achieved by taking two tablets (each tablet being 250 mg). This means that after the first day, the patient has used up 2 out of the 6 tablets, leaving 4 tablets remaining. For the subsequent days, the directions specify that the patient should take 250 mg once daily. Thus, with the remaining 4 tablets, the patient can take one tablet each day for the next 4 days. Putting this all together, the initial day counts as one day of treatment with the remaining tablets allowing for an additional 4 days of treatment. Therefore, the total supply will last for 5 days: 1 day for the initial higher dose and 4 days for the lower daily dose. This confirms that the correct days supply for the medication is indeed 5 days.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://pharmacytechcalc.examzify.com>

We wish you the very best on your exam journey. You've got this!

SAMPLE