

# HOSA Medical Math Assessment Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

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# 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

- 1. How many ounces are in 1 pint?**
  - A. 8 ounces**
  - B. 12 ounces**
  - C. 16 ounces**
  - D. 20 ounces**
  
- 2. What is the formula for calculating total daily dose for medications?**
  - A. Total Daily Dose = (dosage per unit) × (number of units per day)**
  - B. Total Daily Dose = (number of units per day) / (dosage per unit)**
  - C. Total Daily Dose = (dosage per unit) + (number of units per day)**
  - D. Total Daily Dose = (number of units per day) - (dosage per unit)**
  
- 3. Which abbreviation stands for 'milliliter'?**
  - A. ml**
  - B. mg**
  - C. ft**
  - D. tbsp**
  
- 4. If 1 teaspoon equals how many milliliters?**
  - A. 2 milliliters**
  - B. 5 milliliters**
  - C. 10 milliliters**
  - D. 15 milliliters**
  
- 5. Why is Young's Rule significant in pediatric dosing?**
  - A. It considers the child's age in years for dosage**
  - B. It considers the child's weight in pounds for dosage**
  - C. It limits maximum dose based on organ function**
  - D. It provides a flat rate for all children**

6. If a physician orders a medication that is dispensed as 250 mg/5 mL, how much would you give for a dose of 500 mg?
- A. 5 mL
  - B. 7.5 mL
  - C. 10 mL
  - D. 12.5 mL
7. How many milligrams are in 1 gram?
- A. 100 mg
  - B. 1000 mg
  - C. 10000 mg
  - D. 10 mg
8. What is the total volume of medication in mL if each dose is 15 mL and a patient takes it twice a day for 7 days?
- A. 210 mL
  - B. 300 mL
  - C. 150 mL
  - D. 180 mL
9. What does 'mg' stand for in measurement?
- A. Milligram
  - B. Ounce
  - C. Quart
  - D. Tablespoon
10. Which of the following is a definition of standard deviation?
- A. The variance of a set of numbers
  - B. The average of all data points
  - C. The square root of the variance
  - D. The midpoint of a set of numbers



## **Answers**

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

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## **Explanations**

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**1. How many ounces are in 1 pint?**

- A. 8 ounces
- B. 12 ounces
- C. 16 ounces**
- D. 20 ounces

In the context of volume measurements, one pint is equivalent to 16 ounces. This relationship is part of the customary systems of measurement used primarily in the United States. The conversion is straightforward: there are 2 cups in a pint, and each cup holds 8 ounces. Therefore, when you multiply 2 cups by 8 ounces per cup, the result is 16 ounces in total for one pint. Understanding this conversion is essential, especially in medical settings where precise measurements are crucial for dosages and fluid intake. Recognizing that there are 16 ounces in a pint allows for accurate calculations when working with liquid measurements in healthcare scenarios.

**2. What is the formula for calculating total daily dose for medications?**

- A. Total Daily Dose = (dosage per unit) × (number of units per day)**
- B. Total Daily Dose = (number of units per day) / (dosage per unit)
- C. Total Daily Dose = (dosage per unit) + (number of units per day)
- D. Total Daily Dose = (number of units per day) - (dosage per unit)

The formula for calculating the total daily dose for medications is based on multiplying the dosage per unit by the number of units administered per day. This approach allows healthcare providers to determine the complete amount of medication a patient will receive within a 24-hour period. Using the first option, if a medication is prescribed at a specific dosage (e.g., 500 mg per pill), and the patient is supposed to take a certain number of these pills daily (e.g., 3 pills per day), the total daily dose would be calculated as follows: 500 mg (dosage per unit) × 3 (number of units per day) = 1500 mg total daily dose. This method is critical for ensuring that patients receive the correct amount of medication for their treatment, aiding in therapy effectiveness and minimizing the risk of under- or overdosing. The other options do not correctly represent the way total daily dose is calculated, either by using incorrect mathematical operations (like addition or division) that do not reflect the relationship between dosage and frequency of administration.

### 3. Which abbreviation stands for 'milliliter'?

- A. ml**
- B. mg
- C. ft
- D. tbsp

The abbreviation that stands for 'milliliter' is "ml." In the metric system, a milliliter is a unit of volume that is commonly used in medicine and science to measure liquids. It represents one-thousandth of a liter, making it a practical measurement for dosages and fluid volumes. Being familiar with this abbreviation is crucial in medical settings, where precise measurements are necessary to ensure accurate dosing and patient care. Understanding the metric system, including units like milliliters, helps healthcare professionals communicate and document information consistently. The other abbreviations mentioned refer to different units of measurement: "mg" stands for milligram, which measures mass; "ft" is an abbreviation for feet, a unit of length; and "tbsp" refers to tablespoon, which is a measure of volume but much larger than a milliliter.

### 4. If 1 teaspoon equals how many milliliters?

- A. 2 milliliters
- B. 5 milliliters**
- C. 10 milliliters
- D. 15 milliliters

The correct conversion for teaspoons to milliliters is that 1 teaspoon equals 5 milliliters. This is a standard measurement used in cooking and medication dosing, allowing for accuracy in recipes and clinical settings. Understanding this conversion is essential, as it ensures correct dosages in healthcare settings and consistency in culinary practices. Other common conversions might lead to confusion, such as associating teaspoons with 2, 10, or 15 milliliters, but these do not reflect the accurate standard measurement. Knowing that 1 teaspoon is precisely 5 milliliters allows for precise calculations in both medical contexts and everyday scenarios, reinforcing the importance of accurate measurements in various fields.

### 5. Why is Young's Rule significant in pediatric dosing?

- A. It considers the child's age in years for dosage**
- B. It considers the child's weight in pounds for dosage
- C. It limits maximum dose based on organ function
- D. It provides a flat rate for all children

Young's Rule is significant in pediatric dosing because it takes into account the child's age in years to determine the appropriate dosage of medication. This is particularly important in pediatrics, as children's bodies metabolize and respond to medications differently compared to adults. By using the child's age, Young's Rule helps to provide a more accurate dosage that aims to ensure efficacy while minimizing the risk of toxicity or adverse effects. The utilization of age as a factor allows healthcare providers to make informed decisions based on developmental stages, which is vital in administering safe and effective treatment to younger patients. This method is especially helpful in cases where weight may not be the most reliable measure due to variations in growth patterns among children.

6. If a physician orders a medication that is dispensed as 250 mg/5 mL, how much would you give for a dose of 500 mg?

- A. 5 mL
- B. 7.5 mL
- C. 10 mL**
- D. 12.5 mL

To determine the correct volume of medication to administer for a dose of 500 mg when the medication concentration is 250 mg/5 mL, you can set up a proportion based on the concentration. First, calculate how many milligrams are in 1 mL of the solution. Since there are 250 mg in 5 mL, you can divide to find the amount per mL:  $250 \text{ mg} / 5 \text{ mL} = 50 \text{ mg/mL}$ . Next, you need to find out how many mL are necessary to achieve the desired dose of 500 mg. Using the concentration of 50 mg/mL, you can use this formula:  $\text{Volume (mL)} = \text{Desired Dose (mg)} / \text{Concentration (mg/mL)}$ . Plugging in the values gives:  $\text{Volume (mL)} = 500 \text{ mg} / 50 \text{ mg/mL} = 10 \text{ mL}$ . Therefore, for a dose of 500 mg, you would need to give 10 mL of the medication. This is why the correct answer is 10 mL.

7. How many milligrams are in 1 gram?

- A. 100 mg
- B. 1000 mg**
- C. 10000 mg
- D. 10 mg

One gram is equal to 1000 milligrams because the metric system operates on a base of ten for conversions between units. Specifically, 'milli' is a prefix in the metric system that denotes one-thousandth. Therefore, when converting grams to milligrams, you multiply the number of grams by 1000. For example, if you start with 1 gram and convert it to milligrams, the calculation is as follows:  $1 \text{ gram} \times 1000 = 1000 \text{ milligrams}$ . This conversion is essential in medical settings, where accurate dosing and measurements are critical. Understanding the relationships between metric units helps ensure proper administration of medications and precise measurements in various medical applications.

8. What is the total volume of medication in mL if each dose is 15 mL and a patient takes it twice a day for 7 days?

- A. 210 mL**
- B. 300 mL
- C. 150 mL
- D. 180 mL

To determine the total volume of medication in milliliters, first, calculate the total number of doses the patient will take in a week. The patient takes the medication twice a day, which amounts to 14 doses over 7 days ( $2 \text{ doses/day} \times 7 \text{ days} = 14 \text{ doses}$ ). Next, since each dose is 15 mL, you can find the total volume by multiplying the number of doses by the volume per dose:  $14 \text{ doses} \times 15 \text{ mL/dose} = 210 \text{ mL}$ . By performing this calculation, we arrive at a total volume of 210 mL. This option accurately reflects the total required dosage for the week based on the prescribed dosing schedule. The other values do not represent the correct total when applying the given dosing frequency and volume per dose.

**9. What does 'mg' stand for in measurement?**

- A. Milligram**
- B. Ounce**
- C. Quart**
- D. Tablespoon**

The abbreviation 'mg' stands for milligram, which is a unit of mass in the metric system. A milligram is one thousandth of a gram, making it a very small measurement commonly used in medicine and nutrition to indicate the amount of a substance, such as medication or nutrients. The use of milligrams is essential for accuracy in dosing and ensuring that patients receive the correct amount of medication, as even minor variations in dosage can have significant effects. Other options, such as ounce, quart, and tablespoon, represent different units of measurement not related to milligrams, but instead pertain to volume or larger mass measurements. Understanding the metric system and the specific units involved, such as milligrams, is crucial for medical professionals.

**10. Which of the following is a definition of standard deviation?**

- A. The variance of a set of numbers**
- B. The average of all data points**
- C. The square root of the variance**
- D. The midpoint of a set of numbers**

Standard deviation is a statistical measure that quantifies the amount of variation or dispersion in a set of data values. It is specifically defined as the square root of the variance. The variance itself is calculated by averaging the squared differences between each data point and the mean of the data points. By taking the square root of the variance, standard deviation brings the measure back to the original unit of the data, making it easier to interpret in the context of the dataset. This is why identifying standard deviation as the square root of the variance provides a clear and precise definition. Understanding standard deviation is crucial in fields that require statistical analysis, such as health sciences, because it allows for evaluating variability and risk in data.

## 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](mailto:hello@examzify.com).**

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

**<https://hosamedicalmath.examzify.com>**

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