GENERAL

# hesi a 2 math practice questions

Published: September 3, 2026 | Index ID: #-

## Introduction

Preparing for the Health Education Systems, Inc. (HESI) A2 exam is a crucial step for students aiming to enter nursing and allied health programs. While the test covers a broad range of subjects—reading comprehension, science, and math—many candidates find the math portion to be the most challenging. This is because the math section evaluates not only basic arithmetic skills but also the ability to apply mathematical concepts to real-world health scenarios. In this article, we dive deep into **hesi a 2 math practice questions**, exploring why they matter, what types of problems to expect, how to approach them strategically, and where to find high-quality practice resources. Whether you're a first time test taker or looking to refine your skills, this guide will give you a comprehensive roadmap to master the math section of the HESI A2 exam.

## What Is the HESI A2 Exam?

The HESI A2, also known as the HESI Admission Assessment, is a standardized test used by many nursing schools and health science programs to screen prospective students. The exam is divided into five sections:

- Reading Comprehension
- Science
- Mathematics
- English Language
- General Knowledge

Each section is scored on a scale from 0 to 100, and schools set a minimum cutoff score for admission. The math section, which typically accounts for 20-25% of the total score, evaluates your proficiency in basic arithmetic, algebra, and applied math—skills essential for success in health science coursework and clinical practice.

## Why Focus on HESI A2 Math Practice Questions?

Mastering **hesi a 2 math practice questions** offers several benefits:

1. Identify Knowledge Gaps – Repeated exposure to practice questions reveals specific areas—such as fractions or percentages—where you need improvement.
2. Build Test Day Confidence – Familiarity with question formats reduces anxiety and helps you manage time more effectively.
3. Improve Accuracy – Regular practice refines calculation skills, reducing careless errors that can cost valuable points.
4. Boost Overall Score – The math section can significantly influence your overall score; excelling here can elevate your candidacy.

## Common Types of HESI A2 Math Questions

Understanding the question types you'll encounter is the first step toward effective preparation. Below are the most frequently seen categories:

### 1. Basic Arithmetic

These questions test simple operations—addition, subtraction, multiplication, and division—often with whole numbers or decimals. Example: “If a medication dose is 2.5 mg per 100 mL, how many mg are in 250 mL?”

### 2. Fractions, Decimals, and Percentages

Health science calculations often involve converting between these forms. For instance: “What percent of 200 mL is 50 mL?”

### 3. Ratios and Proportions

Ratio problems assess your ability to compare two quantities. Example: “If a solution contains 3 g of solute per 100 mL, how much solute is needed for 500 mL?”

### 4. Algebraic Expressions

These questions require solving for an unknown variable. Example: “If a patient’s heart rate increases by 15% after a medication, what is the new heart rate if the original was 80 bpm?”

### 5. Word Problems

Real world scenarios test your ability to translate narrative information into mathematical equations. Example: “A nurse administers 1.2 mL of a drug every 8 hours. How many milliliters will be given in a 48 hour period?”

### 6. Data Interpretation

These problems involve reading tables, graphs, or charts and extracting numerical information. Example: “According to the chart, what is the average blood pressure over the last five readings?”

## Sample HESI A2 Math Practice Questions

Below are ten carefully crafted practice questions that reflect the style and difficulty level of the actual exam. Work through each problem, then check your answers against the solutions provided at the end.

### Question 1 – Basic Arithmetic

A patient receives 3.5 mg of a medication per dose. If the patient takes 4 doses per day, what is the total daily dose in milligrams?

### Question 2 – Fractions & Percentages

In a 250 mL vial, 20% of the volume is a saline solution. How many milliliters of saline are present?

### Question 3 – Ratio

A laboratory test requires mixing 2 parts of reagent A with 5 parts of reagent B. If 10 mL of reagent B is used, how many milliliters of reagent A are needed?

### Question 4 – Algebra

If the dosage of a drug is increased by 25%, what is the new dosage in milligrams if the original dosage was 80 mg?

### Question 5 – Word Problem

A nurse administers 0.75 mL of a medication every 6 hours. How many milliliters will be given over a 24 hour period?

### Question 6 – Data Interpretation

The following table shows a patient’s blood glucose levels (mg/dL) over five days. Identify the highest value.

| Day | Glucose (mg/dL) |
|---|---|
| 1 | 95 |
| 2 | 110 |
| 3 | 102 |
| 4 | 120 |
| 5 | 98 |

### Question 7 – Decimal Conversion

Convert 0.375 into a fraction.

### Question 8 – Percentage Increase

A patient’s weight increases from 68 kg to 70 kg. What is the percentage increase?

### Question 9 – Proportion

If 3 liters of a solution contain 150 grams of solute, how many grams of solute are in 7 liters?

### Question 10 – Complex Word Problem

A medication is prescribed at 1.5 mg/kg. A patient weighs 70 kg. Calculate the total dose in milligrams.

## Answer Key and Explanations

1. 3.5 mg × 4 = 14 mg
2. 20% of 250 mL = 0.20 × 250 = 50 mL
3. Let x = volume of reagent A. 2x : 5(10) !’ 2x = 50 !’ x = 25 mL
4. 25% increase of 80 mg = 0.25 × 80 = 20 mg. New dosage = 80 + 20 = 100 mg
5. 0.75 mL every 6 hours × 4 doses = 3 mL
6. Highest glucose value = 120 mg/dL (Day 4)
7. 0.375 = 375/1000 = 3/8 (after reducing) !’ 3/8
8. Weight increase = 70 – 68 = 2 kg. Percentage increase = (2/68) × 100 "H 2.94%
9. 150 g / 3 L = 50 g/L. 50 g/L × 7 L = 350 g
10. 1.5 mg/kg × 70 kg = 105 mg

## Strategies for Tackling HESI A2 Math Practice Questions

Success on the math section comes from a combination of solid fundamentals, smart test taking tactics, and consistent practice. Here are proven strategies to help you ace each question type.

### 1. Master the Basics First

Before diving into complex problems, ensure you’re comfortable with:

- Arithmetic operations with whole numbers, decimals, and fractions.
- Percentages and how to convert between percent, decimal, and fraction.
- Basic algebraic manipulation (solving for x, isolating terms).
- Understanding ratios and proportions.

### 2. Read the Question Carefully

HESI A2 math problems often hide the key variable in the wording. Pay attention to:

- Units of measurement (mg, mL, kg).
- Time intervals (every 6 hours, 24 hour period).
- Percentages that may represent increases, decreases, or part of a whole.

### 3. Convert Units Early

When the problem involves different units—such as converting liters to milliliters—perform the unit conversion before any calculations. This reduces the chance of rounding errors.

### 4. Use the “Check the Answer” Method

After solving, quickly estimate whether your answer makes sense. For instance, if a question asks for a dosage in milligrams, a result in liters is obviously wrong.

### 5. Practice Time Management

Set a timer while you practice. The math section typically allows around 15–20 minutes for 20–25 questions. Train yourself to allocate roughly 45–60 seconds per question, including time for reading and double checking.

### 6. Leverage Online Resources

Many websites offer free HESI A2 math practice sets. Use these to expose yourself to varied question formats and difficulty levels. Just be sure the source is reputable and the questions reflect the current exam structure.

## Top Resources for HESI A2 Math Practice

Below is a curated list of resources—both free and paid—that provide high quality practice materials, tutorials, and full-length practice exams.

### 1. Official HESI Practice Tests

HESI’s own practice tests are the most accurate reflection of the exam. They include detailed explanations and are updated regularly.

### 2. Khan Academy

Offers free, comprehensive lessons on algebra, fractions, decimals, and percentages. Their practice exercises can be tailored to your skill level.

### 3. College Board’s SAT Math Practice

While not specific to HESI, the SAT math section covers many overlapping concepts. The practice questions are excellent for sharpening problem solving skills.

### 4. HESI Study Guides (Paid)

Commercial study guides often contain thousands of practice questions, video tutorials, and full practice exams. Look for titles from reputable publishers such as Kaplan, Princeton Review, or HESI’s own study packages.

### 5. YouTube Tutorials

Channels like “MathHelp” and “Professor Leonard” offer step by step solutions to common math problems, which can help reinforce concepts.

## Creating Your Own Practice Plan

Consistency is key. Below is a simple weekly plan to integrate HESI A2 math practice into your study routine.

### Week 1: Foundations

- Day 1–2: Review basic arithmetic and unit conversions.
- Day 3–4: Practice fractions, decimals, and percentages.
- Day 5–7: Solve 10–15 basic algebra problems.

### Week 2: Application

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