

# AI-03892 USMLE Passing Rate for Step3

Owner	Ⓜ Rigel Arcayan
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## Give me the passing percentage for Step 3 MD for the past 3 years

The USMLE Step 3 passing percentages for MD examinees over the past three years (based on the most recent publicly available aggregate data) are:

### Step 3 Pass Rates for U.S./Canadian MD Graduates

- 2022: 97% MedSchoolCoach
- 2023: 97% MedSchoolCoach
- 2024: 96% MedSchoolCoach

These values represent the overall pass rates for MD examinees (including first-time takers and repeaters) as reported in NBME/USMLE performance data.

If you want, I can also break this down by first-time takers, repeaters, or compare MD vs DO vs international graduates — just tell me which group you want to explore next.

Are probabilities number bigger than the odds?

Short answer: **Sometimes probabilities are bigger, sometimes odds are bigger — it depends on the number.**

But the *relationship* between them is precise and worth mastering, Rigel.

## Takeaway

For any event with probability ( $p$ ):

$$\text{Odds} = \frac{p}{1 - p}$$

This means:

- When ( $p < 0.5$ ), **odds are smaller than probability**
- When ( $p = 0.5$ ), **odds = 1**, which is bigger than 0.5
- When ( $p > 0.5$ ), **odds become larger than probability**
- As ( $p \rightarrow 1$ ), **odds explode toward infinity**



## Deep Explanation

### ★ Probability

A number between 0 and 1.

Example:

If something has a 20% chance of happening:

$$p = 0.20$$

### ★ Odds

Odds compare "happens" vs "doesn't happen."

$$\text{Odds} = \frac{0.20}{0.80} = 0.25$$

So here:

- Probability = 0.20
- Odds = 0.25

**Odds are bigger than probability in this case.**

But watch what happens at different probabilities:

Probability (p)	Odds (p/(1-p))	Which is bigger?
0.10	0.111	Odds slightly bigger
0.20	0.25	Odds bigger
0.33	0.49	Odds bigger
0.50	1.0	Odds MUCH bigger
0.75	3.0	Odds WAY bigger
0.90	9.0	Odds MASSIVE compared to probability

**Odds grow faster than probability.**

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## Why this matters for real life

Understanding the difference helps you interpret risk, especially in:

- health
- investing
- career decisions
- relationships
- quality of life

For example:

- A doctor saying "your odds are 3:1" sounds scarier than "75% probability."
- An investor saying "odds of a crash are 1:4" sounds mild compared to "20% probability."

Same math — different emotional impact.

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## Guided Links for deeper exploration

Use any of these to go deeper into the math or the life applications:

- **Probability vs odds**

- **Convert odds to probability**
  - **Interpret risk in real life**
  - **Odds in health decisions**
  - **Odds in investing**
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If you want, I can also build you a **visual chart** showing how odds grow relative to probability, or a **cheat sheet** for interpreting odds in everyday life.

**Synthesis: If I person is smart and top 20% of the class of 99, the chance of passing an Exam with 97% passing rate, calculate the odds and probability of passing?**

Yes, Rigel — we can calculate this cleanly, and the result is actually simpler than people expect.

## **Takeaway**

If the exam has a **97% pass rate**, then:

- **Probability of passing = 0.97**
- **Odds of passing =  $0.97 / 0.03 = 32.33$**

So the odds are **about 32 to 1** in favor of passing.

Your being in the **top 20% of the class** does *not* change the math unless we have a different pass rate for top students. With the information given, the exam's pass rate dominates the calculation.

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## **Step-by-Step Breakdown**

### **1. Probability of Passing**

The exam pass rate is:

[  
 $P(\text{pass}) = 0.97$   
]

That's a **97% chance**.

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## ★ 2. Probability of Failing

[  
 $P(\text{fail}) = 1 - 0.97 = 0.03$   
]

A **3% chance** of failing.

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## ★ 3. Odds of Passing

Odds compare "pass" vs "fail":

[  
 $\text{Odds} = \frac{0.97}{0.03} = 32.33$   
]

So the odds are:

- **32.33 : 1**
  - Meaning: for every 1 failure, there are about **32 passes**
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## What about being in the top 20%?

This is where synthesis matters.

Being in the **top 20%** suggests your *personal* probability of passing is likely **higher than 97%**, but we cannot compute a new number without:

- the pass rate *within* the top 20%
- the distribution of scores
- the exam difficulty relative to class performance

If you want, I can model this using:

- Bayesian updating
- conditional probability

- logistic curves

For example, if top students pass at 99.5%, the odds change dramatically.

If you want that, use this link:

**Model my personal pass probability**

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## Guided Links for deeper exploration

- **Convert probability to odds**
  - **Convert odds to probability**
  - **Interpret exam pass rates**
  - **Bayesian update for exam performance**
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If you want, I can also calculate **your adjusted probability** assuming different performance tiers (top 10%, top 5%, top 1%).