# 3 Florida FAST Grade 7 Math Practice Tests

*Full-Length Test Prep with Detailed Answer Explanations*

## Dr. A. Nazari

# 3 Practice Tests

## Grade 7 Math — Launch Sequence

Calling all future mathematicians!

You're about to launch into **3 full-length practice missions** covering every Grade 7 math topic — from proportional relationships to probability.

🚀 **Mission 1:** Explore the terrain

🚀 **Mission 2:** Navigate with precision

🚀 **Mission 3:** Achieve orbit

*Three missions. One launchpad. Infinite potential.*

> **"** Three missions is the perfect count for a focused launch. You'll cover the whole course and still have fuel to review! **"**

# 🚀 Mission Briefing 🚀

*Your 3-mission flight plan for Grade 7 math mastery*

## 📋 Mission Payload

- **3 Full-Length Practice Tests** — *each covering all 9 chapters of Grade 7 math: ratios, percents, rational numbers, expressions, equations, geometry, circles & volume, statistics, and probability.*

- **Detailed Answer Explanations** — *not just the correct answer, but the reasoning behind every solution.*

- **Mission Log** — *record your scores, spot patterns, and track your trajectory toward mastery.*

## 🛰 Flight Plan

🚀 *Mission 1*    **Survey Orbit.** *Take this test without a timer. Get a clear read on the question types and discover which topics are your strongest — and which need fuel.*

🚀 *Mission 2*    **Guided Re-entry.** *Review your Mission 1 results, study your weak spots, then launch Mission 2 with a soft timer (70 minutes). Focus on showing full work for every multi-step problem.*

🚀 *Mission 3*    **Full Launch.** *Simulate test-day conditions: timed, quiet, independent. Compare your score with Mission 1 and celebrate your growth!*

## ⬤ Multiple Choice

*Select the **single best answer** from A–D. Eliminate clearly wrong options first, then reason through what's left. Show scratch work even when it's not required — it sharpens your thinking.*

## ✏ Constructed Response

*Show every step of your solution. In Grade 7, partial credit often comes from demonstrating the **process** — setting up proportions, writing equations, and justifying your reasoning — not just the final number.*

🐘 *__Mission Control says:__ Space your 3 missions at least a week apart. Use the days between to review mistakes and study the topics that tripped you up. By Mission 3, you'll be flying.*

# 📡 Navigation Protocols 📡

*Smart strategies to stay on course during every mission*

## � The S.C.A.N. Protocol

**S**  **Study the question**  *Read it fully. Identify what is given and what is being asked.*

**C**  **Choose a strategy**  *Proportion? Equation? Estimation? Pick your tool before computing.*

**A**  **Apply and solve**  *Show every step. Label units. Write the equation before plugging in.*

**N**  **Navigate back**  *Re-read the question. Does your answer match what was asked?*

## ☾ Pre-Launch Checklist

- ✅ *Get a full night's sleep — your brain processes what you studied while you rest.*
- ✅ *Clear your workspace and gather supplies before you begin.*
- ✅ *Set a goal: "I'll show my work on every problem today."*

## ✅ Green-Light Moves

- *Read the entire question before glancing at choices*
- *Circle key numbers; underline what is asked*
- *Convert fractions, decimals, and percents when it helps*
- *Use estimation to check reasonableness*
- *Skip tough problems and return with fresh eyes*

## ❌ Red-Alert Traps

- *Rushing through word problems*

- *Forgetting negative signs (rational numbers!)*

- *Confusing "percent of" with "percent increase"*

- *Choosing an answer that solves only part of the problem*

- *Leaving constructed-response blank instead of attempting it*

> ❝ *Every astronaut debriefs after a mission. After each test, review every wrong answer and ask yourself* **"What would I do differently next time?"** *That single habit will launch your score.* ❞

# Math Reference Sheet

*You may use this page during your practice tests!*

| Symbol | Name | What It Means | |
|--------|------|---------------|---|
| $(\ )$ | Parentheses | Do this part first. | $(3+4) \times 2 = 14$ |
| $10^3$ | Exponent | Multiply the base by itself that many times. $10^3 = 1,000$ | |
| $\dfrac{a}{b}$ | Fraction | a parts out of b equal parts; also means $a \div b$. | |
| $\dfrac{7}{3}$ | Improper Fraction | Numerator $\geq$ denominator. | $\frac{7}{3} = 2\frac{1}{3}$ |
| $0.45$ | Decimal | A number with a decimal point. | $0.45 = \frac{45}{100}$ |
| $> < =$ | Comparison | Greater than, less than, equal to. | $0.5 > 0.35$ |
| $(3,5)$ | Ordered Pair | A point on the coordinate plane: $(x, y)$. | |

## ▦ Key Formulas

- **Volume of a rectangular prism:**

  $V = l \times w \times h$

- **Order of operations:**

  Parentheses $\rightarrow$ Exponents $\rightarrow$ Multiply/Divide $\rightarrow$ Add/Subtract

- **Powers of 10:**

  $10^1 = 10 \quad 10^2 = 100$

  $10^3 = 1,000 \quad 10^4 = 10,000$

- **Fraction as division:**

  $\frac{a}{b} = a \div b$

## ⊞ *Place Value Chart*

| | | | |
|---|---|---|---|
| *Millions* | 1,000,000 | | |
| *Hundred-Thousands* | 100,000 | | |
| *Ten-Thousands* | 10,000 | | |
| *Thousands* | 1,000 | | |
| *Hundreds* | 100 | | |
| *Tens* | 10 | | |
| *Ones* | 1 | | |

*Decimals*

| | |
|---|---|
| *Tenths* | 0.1 |
| *Hundredths* | 0.01 |
| *Thousandths* | 0.001 |

*Each place is **10×** the place to its right, and $\frac{1}{10}$ of the place to its left.*

## 📖 *Key Math Vocabulary*

- **Sum** — *the result of addition*
- **Difference** — *the result of subtraction*
- **Product** — *the result of multiplication*
- **Quotient** — *the result of division*
- **Remainder** — *what's left over after dividing*
- **Factor** — *a number you multiply*
- **Expression** — *numbers and operations without =*
- **Equation** — *a math sentence with =*
- **Numerator** — *the top number of a fraction*

- **Denominator** — *the bottom number of a fraction*
- **Mixed number** — *a whole number + a fraction*
- **Equivalent fractions** — *fractions with equal value*
- **Decimal** — *a number written with a decimal point*
- **Volume** — *the space inside a 3D shape*
- **Coordinate plane** — *a grid with $x$ and $y$ axes*
- **Ordered pair** — *$(x, y)$ location on the plane*

## 🔍 *Word Problem Clue Words*

- **Add** (+): *total, altogether, combined, sum, increase, more than*
- **Subtract** (−): *difference, how many more, fewer, remain, decrease, left*

- **Multiply** (×): *each, every, groups of, times, product, per, of (with fractions)*
- **Divide** (÷): *share equally, split, each group, how many groups, quotient, per*

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# Contents

# 1

# Practice Test 1

📋 *30 Questions*

## ✏️ *Before You Start* ✏️

- ✔ ***Read each question carefully*** *before choosing your answer.*
- ✔ ***Show your work*** *on scratch paper when you need to.*
- ✔ ***Skip hard questions*** *and come back to them later.*
- ✔ ***Check your answers*** *when you're done.*
- ✔ ***Take your time*** *— there's no rush!*

## ⭐ *You've Got This!* ⭐

*Do your best and show what you know!*

**1.** A runner covers $\frac{3}{4}$ mile in $\frac{1}{4}$ hour at a constant rate. What is $k$ in miles per hour?

Your Answer:

**2.** On a map, 4.5 cm represents 36 km. Two parks are 54 km apart. How far apart are they on the map?

Your Answer:

**3.** 0.5% of 800 is what number?

Your Answer:

**4.** 48 is what percent of 320?

Your Answer:

**5.** A loan of $3,000 charges $540 interest over 3 years. What is the annual interest rate?

(A) 3%

(B) 5%

(C) 6%

(D) 9%

**6.** A carpenter estimated a board was 8 feet long. The actual length was 8.5 feet. What is the percent error (rounded to the nearest tenth)?

(A) 5%

(B) 5.9%

(C) 6.3%

(D) 6.7%

**7.** When you add two negative integers, the result is always:

(A) Positive

(B) Zero

(C) Negative

(D) It depends on the numbers

**8.** What is $(-20) - (-20)$?

(A) $-40$

(B) $40$

(C) $0$

(D) $-20$

**9.** Factor $30n - 45$ completely.

Your Answer:

**10.** Simplify $(6x + 2y) - (x - 3y)$.

(A) $5x + 5y$

(B) $5x - y$

(C) $7x + 5y$

(D) $5x - 5y$

**11.** Each side of a square is $(x + 7)$ cm. The perimeter is $60$ cm. What is $x$?

(A) $x = 15$

(B) $x = 53$

(C) $x = 8$

(D) $x = 22$

**12.** Solve $-0.2n + 5.6 = 4$

(A) $n = 8$

(B) $n = -8$

(C) $n = 48$

(D) $n = -48$

**13.** You have $60 and spend $8 per day. You want to have at least $12 left. Which inequality finds the number of days $d$ you can spend?

(A) $60 - 8d \leq 12$

(B) $60 + 8d \geq 12$

(C) $60 - 8d \geq 12$

(D) $8d - 60 \geq 12$

**14.** A number line shows a closed circle at $10$ with shading to the right. Which inequality is graphed?

(A) $x > 10$

(B) $x \geq 10$

(C) $x \leq 10$

(D) $x < 10$

**15.** A drawing uses scale $1 : 200$. It is redrawn at scale $1 : 100$. How does the area on the new drawing compare to the original?

(A) It is 2 times as large

(B) It is 4 times as large

(C) It is half as large

(D) It is the same

**16.** Sides $5$, $12$, $13$. Is this a right triangle?

(A) No, because $5 + 12 \neq 13$

(B) No, because the sides are not equal

(C) Yes, because $5^2 + 12^2 = 13^2$

(D) Yes, because $5 + 12 = 17 > 13$

**17.** You slice a sphere with any flat plane. What shape is the cross-section?

(A) Oval

(B) Rectangle

(C) Circle

(D) It depends on the angle of the cut

**18.** *An angle and its complement are in the ratio 1 : 4. What is the larger angle?*

(A) 18°

(B) 36°

(C) 72°

(D) 90°

**19.** *What is the name of the distance from the center of a circle to any point on the circle?*

(A) *Diameter*

(B) *Circumference*

(C) *Radius*

(D) *Chord*

**20.** *A box without a lid is shown below. What is the total surface area (including the bottom but NOT the top)?*

5 cm

3 cm

8 cm
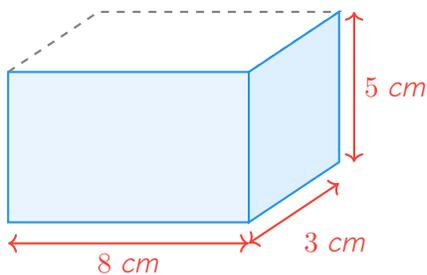
*Your Answer:*

**21.** *A storage container is 2 ft long, 1.5 ft wide, and 3 ft tall. How many cubic feet can it hold?*

(A) 6 $ft^3$

(B) 6.5 $ft^3$

(C) 9 $ft^3$

(D) 10 $ft^3$

**22.** A cylinder has a diameter of $8$ cm and a height of $5$ cm. What is its volume? Use $\pi \approx 3.14$.

(A) $100.48\ cm^3$                                (B) $200.96\ cm^3$

(C) $251.2\ cm^3$                                 (D) $401.92\ cm^3$

**23.** Which of the following increases the reliability of conclusions drawn from a sample?

(A) Using a smaller sample                       (B) Using a larger random sample

(C) Surveying only people who agree with you     (D) Using a non-random sample

**24.** If the difference between two group means is more than $2$ times the MAD, the difference is generally considered:

(A) Not meaningful                               (B) Meaningless

(C) Meaningful                                   (D) Impossible to determine

**25.** Data set: $20, 22, 25, 27, 30, 32, 35$. What is the IQR?

(A) $15$                                         (B) $10$

(C) $7$                                          (D) $5$

**26.** A stem-and-leaf plot has $13$ leaves. What is the position of the median?

(A) 6th value                                    (B) 7th value

(C) 6.5th value                                  (D) 13th value

**27.** A circle graph shows that a student spends 50% of their day sleeping, 25% at school, and the rest on other activities. How many hours are spent on other activities?

(A) 4 hours

(B) 6 hours

(C) 8 hours

(D) 12 hours

**28.** Is flipping a fair coin a uniform or non-uniform probability model?

Your Answer:

**29.** A spinner has 3 equal sections (A, B, C) and a coin is flipped. What is the probability of landing on B and getting heads?

(A) $\frac{1}{2}$

(B) $\frac{1}{3}$

(C) $\frac{1}{6}$

(D) $\frac{2}{3}$

**30.** A die is used to simulate an event. Rolling 1 or 2 represents "success." What is the probability of success in each trial?

(A) $\frac{1}{6}$

(B) $\frac{1}{3}$

(C) $\frac{1}{2}$

(D) $\frac{2}{3}$

# ⭐ *End of Practice Test 1* ⭐

*Great job finishing the test!*

## ☑ *My Score*

*I got _____ out of 30 questions right.*

*Check your answers in the **Answer Key** at the back of the book.*

💡 *Review any questions you missed. That's how we learn!*

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