

9 New York NYSTP

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



9 PRINTED TESTS



2 ONLINE TESTS



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



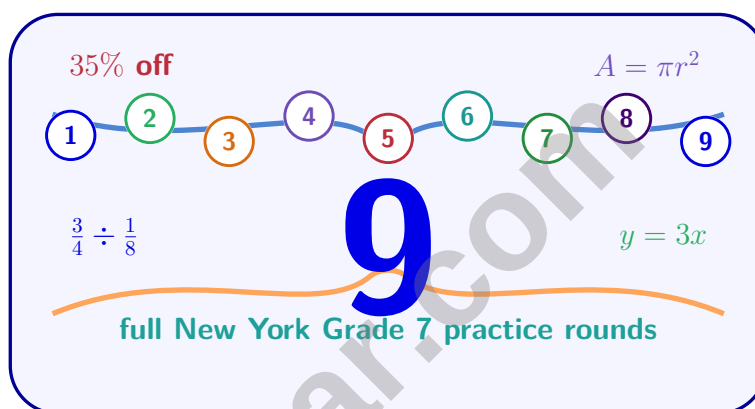
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 New York NYSTP Grade 7 Math Practice Tests

Standards-Aligned New York Practice for Proportional Reasoning, Expressions, Geometry, Statistics, and Probability



Nine complete 40-question Grade 7 NYSTP practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, New York Grade 7 Problem Solver!

Nine focused rounds for sharper NYSTP math thinking

This book gives you nine full Grade 7 NYSTP math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your New York Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

A nine-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

New York review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Nine NYSTP tests, 360 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–9	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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& answers

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- 1) A school district collects data on student absences. Researchers survey 100 students randomly selected from each grade level. Why is this stratified approach appropriate?
- ☐ A. It reduces the total sample size ☐ C. It eliminates the need for random selection needed
- ☐ B. It ensures each grade is represented proportionally in the sample ☐ D. It automatically produces a larger sample
- 2) A bag has 10 marbles: 4 red, 3 blue, and 3 green. If you draw one marble, what is the probability of drawing red OR blue?
- ☐ A. $\frac{7}{10}$ ☐ C. $\frac{4}{10}$
- ☐ B. $\frac{3}{10}$ ☐ D. $\frac{12}{100}$
- 3) A waiter receives a \$12 tip on a \$60 bill. What percentage tip did the customer leave?
- ☐ A. 15% ☐ C. 20%
- ☐ B. 18% ☐ D. 25%
- 4) A survey of 250 people found that 80 preferred hybrid vehicles. If the town has 5000 people, how many are estimated to prefer hybrid vehicles?



5) A stem-and-leaf plot has stems 5, 6, 7 with leaves:

- Stem 5: 1, 4, 7
- Stem 6: 0, 3, 8
- Stem 7: 2, 6, 9

What is the range of the data?

- ☐ A. 24 ☐ C. 26
- ☐ B. 25 ☐ D. 27

6) A prism has a base area of 72 ft^2 and a volume of 576 ft^3 . What is its height?

- ☐ A. 6 ft ☐ C. 12 ft
- ☐ B. 8 ft ☐ D. 504 ft

7) In a circle with center O and radius 10 cm, a chord is drawn. What is the maximum possible length of the chord?

- ☐ A. 10 cm ☐ C. 20 cm
- ☐ B. 15 cm ☐ D. 30 cm

8) Which fraction is equivalent to a probability of 0.75?

- ☐ A. $\frac{1}{4}$ ☐ C. $\frac{1}{2}$
- ☐ B. $\frac{3}{4}$ ☐ D. $\frac{4}{5}$

9) A restaurant owner borrows \$10000 at 7.2% simple interest for 2.5 years to buy kitchen equipment. How much total interest will be paid?

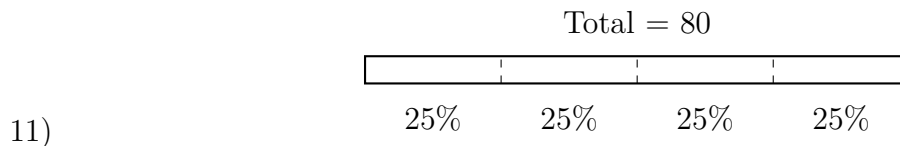
- ☐ A. \$1440 ☐ C. \$2000
- ☐ B. \$2500 ☐ D. \$1800



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- 10) A model swimming pool has a scale of 1 : 50. If the actual pool volume is 5,000,000 cubic centimeters, what is the model pool volume in cubic centimeters?

- ☐ A. 100,000 cm³ ☐ C. 4,000 cm³
☐ B. 40,000 cm³ ☐ D. 40 cm³



The bar model shows a number divided into equal parts. What is 25% of 80?

- ☐ A. 15 ☐ C. 25
☐ B. 30 ☐ D. 20
- 12) An item originally costs \$120. After applying a discount and then adding a 7% sales tax, the final cost is \$107.10. What was the discount amount?

- ☐ A. \$30 ☐ C. \$12.90
☐ B. \$20 ☐ D. \$10

- 13) What is $-10 + 5 + (-3)$?

- ☐ A. -18 ☐ C. 8
☐ B. 18 ☐ D. -8

- 14) A student evaluates $5 - 3x$ when $x = 2$ and writes: " $5 - 3(2) = 5 - 6 = -1$." Is this correct?

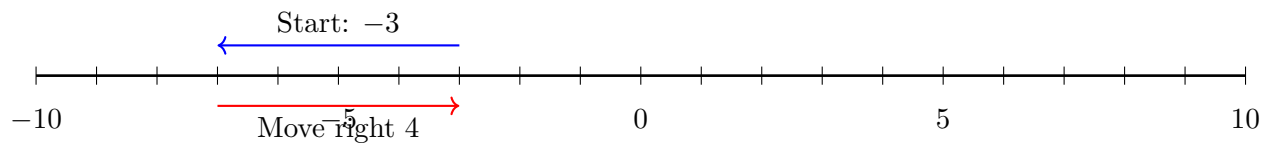
- ☐ A. No, the error is in the multiplication step ☐ C. No, the variable should not be substituted
☐ B. No, the error is in the subtraction step ☐ D. Yes, the answer is -1



1) A car's value is \$15 000 after a 40% depreciation. What was the original value?

- ☐ A. \$9 000 ☐ C. \$25 000
☐ B. \$21 000 ☐ D. \$37 500

2)



Which subtraction problem is shown by the red arrow (moving right 4 units from -7)?

- ☐ A. $-7 - (-4)$ ☐ C. $-7 + (-4)$
☐ B. $-7 - 4$ ☐ D. $4 - (-7)$

3) An object travels $\frac{5}{2}$ meters in $\frac{1}{3}$ second. What is the speed in meters per second?

- ☐ A. $\frac{6}{5}$ m/s ☐ C. $\frac{5}{6}$ m/s
☐ B. $\frac{2}{15}$ m/s ☐ D. $\frac{15}{2}$ m/s

4) A store sells apples at \$2.50 per pound. The relationship between pounds (p) and cost (c) is proportional. Write the equation.

- ☐ A. $c = p + 2.5$ ☐ C. $p = 2.5c$
☐ B. $c = 2.5 + p$ ☐ D. $c = 2.5p$



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- 5) A table shows amount of fertilizer (pounds) and flower blooms produced.

Fertilizer (lb)	Blooms
2	24
3	36
4.5	54

If the relationship is proportional, what is the constant of proportionality?

- ☐ A. 10 blooms per lb ☐ C. 15 blooms per lb
☐ B. 18 blooms per lb ☐ D. 12 blooms per lb
- 6) Which option shows a completely factored expression?
- ☐ A. $8x + 16 = 4(2x + 4)$ ☐ C. $5m + 10 = 10(0.5m + 1)$
☐ B. $6y - 9 = 3(2y - 3)$ ☐ D. $12p + 8 = 2(6p + 4)$
- 7) A cube has surface area 600 cm^2 . What is its edge length?
- ☐ A. 5 cm ☐ C. 100 cm
☐ B. 10 cm ☐ D. 3600 cm
- 8) A bag contains only red and blue marbles in unknown proportions. A simulation draws a marble, records the color, and replaces it. After 200 draws, red appears 132 times and blue appears 68 times. Based on this simulation, what is the estimated probability of drawing a red marble?
- ☐ A. 0.34 ☐ C. 0.66
☐ B. 0.50 ☐ D. 0.68



- 1) A rental company charges \$25 per day for a kayak plus a \$15 equipment fee. The total bill is \$115. Which equation finds d , the number of days?

☐ A. $25d + 15 = 115$ ☐ C. $25(d + 15) = 115$
☐ B. $25 + 15d = 115$ ☐ D. $15d + 25 = 115$

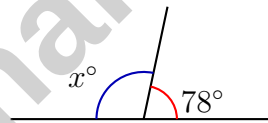
- 2) A rectangular parking space at a lot is 2.5 m by 5 m. A scale drawing is made with 1 cm : 1 m. What is the area of the drawing in square centimeters?

☐ A. 12.5 cm^2 ☐ C. 25 cm^2
☐ B. 2.5 cm^2 ☐ D. 50 cm^2

- 3) A cone is sliced horizontally (parallel to its circular base). What is the shape of the cross-section?

☐ A. Rectangle ☐ C. Circle
☐ B. Triangle ☐ D. Ellipse

4)



Two lines intersect. One angle measures 78° . The angle adjacent to this angle is x . What is x ?

☐ A. 12° ☐ C. 102°
☐ B. 78° ☐ D. 180°

- 5) A map has a scale of 2 inches = 100 miles. If two towns are 5 inches apart on the map, what is the actual distance?

☐ A. 100 miles ☐ C. 250 miles
☐ B. 200 miles ☐ D. 350 miles



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- 6) If a square has a perimeter of 40 cm, what is its area?



- 7) A circle has a diameter of 10 feet. What is its radius?

- ☐ A. 5 feet ☐ C. 20 feet
☐ B. 10 feet ☐ D. 31.4 feet

- 8) A teacher wants to know if two classes have similar skill levels in writing. Which pair of statistics should she compare?

- ☐ A. Only the ranges ☐ C. Only mode
☐ B. Medians and IQRs (center and spread) ☐ D. Only the maximum scores

- 9) A bar graph compares the number of books read by four students over the summer. If the graph uses a scale of 1 cm = 10 books, and Student D's bar is 4.5 cm long, how many books did Student D read?

- ☐ A. 4.5 books ☐ C. 45 books
☐ B. 14.5 books ☐ D. 450 books

- 10) A concert ticket costs \$85. With a 15% service fee, the total is $85(1 + 0.15)$. What is the total cost?

- ☐ A. \$97.75 ☐ C. \$100
☐ B. \$70 ☐ D. \$12.75



New York NYSTP Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 student:**

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next New York NYSTP practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.SP.1-7.SP.4) Stratified sampling from each grade ensures all groups are included, preventing bias toward any single grade level.
- 2) **Choice A is correct.** (7.SP.5-7.SP.8) Mutually exclusive: $P(\text{red}) + P(\text{blue}) = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$.
- 3) **Choice C is correct.** (7.RP.3) Tip percentage = $\frac{12}{60} = 0.20 = 20\%$.
- 4) **The correct answer is 1600.** (7.SP.1-7.SP.4) Set up the proportion: $\frac{80}{250} = \frac{x}{5000}$. Solve: $x = \frac{80 \times 5000}{250} = 1600$.
- 5) **Choice B is correct.** (7.SP.1-7.SP.4) Minimum is 51, maximum is 76. Range = $76 - 51 = 25$.
- 6) **Choice B is correct.** (7.G.4-7.G.6) $h = \frac{V}{B} = \frac{576}{72} = 8$ ft.
- 7) **Choice C is correct.** (7.G.4-7.G.6) The longest chord is the diameter, which equals $2r = 2 \times 10 = 20$ cm.
- 8) **Choice B is correct.** (7.SP.5-7.SP.8) $\frac{3}{4} = 0.75$. Dividing $3 \div 4 = 0.75$.
- 9) **Choice D is correct.** (7.RP.3) $I = 10000 \times 0.072 \times 2.5 = \1800 .
- 10) **Choice D is correct.** (7.RP.1-7.RP.3) Linear scale is 1 : 50. Volume scales by $(1/50)^3 = 1/125,000$. Model volume = $5,000,000 \div 125,000 = 40 \text{ cm}^3$.
- 11) **Choice D is correct.** (7.RP.3) 25% of 80 is $\frac{1}{4} \times 80 = 20$.
- 12) **Choice D is correct.** (7.RP.3) Working backward: $107.10 \div 1.07 = \$100$ before tax. So discounted price was \$100, making discount = $120 - 100 = \$10$.
- 13) **Choice D is correct.** (7.NS.1b) Step-by-step: $-10 + 5 = -5$, then $-5 + (-3) = -8$. Or combine negatives first: $-10 + (-3) = -13$, then $-13 + 5 = -8$.
- 14) **Choice D is correct.** (7.EE.1-7.EE.2) The work is correct: $5 - 3(2) = 5 - 6 = -1$.
- 15) **Choice B is correct.** (7.EE.4b) "The difference of a number and 5" is $x - 5$; "is greater than 8" is > 8 .
- 16) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{1/2}{1/8} = \frac{1}{2} \times 8 = 4$ mph.
- 17) **Choice D is correct.** (7.RP.1-7.RP.3) For a proportional relationship, the ratio $\frac{\text{toys}}{\text{hours}}$ must be constant. Both ratios equal 30 toys per hour, so the relationship is proportional with $k = 30$.
- 18) **The correct answer is 0.** (7.G.1-7.G.5) Compute $81 + 144 - 225 = 0$. This confirms the side lengths satisfy the Pythagorean relationship, forming a right triangle.
- 19) **The correct answer is A, C.** (7.G.4-7.G.6) Large square: $20 \times 20 = 400 \text{ m}^2$ (A). Small square: $5 \times 5 = 25 \text{ m}^2$. Remaining: $400 - 25 = 375 \text{ m}^2$ (C). The cutout is $\frac{25}{400} = \frac{1}{16}$ of the original area, not $\frac{1}{20}$.
- 20) **Choice C is correct.** (7.RP.3) Multiply 2 by 1.5: $2 \times 1.5 = 3$ cups. Alternatively, using a proportion: $\frac{150}{100} = \frac{x}{2}$, so $x = 3$.
- 21) **Choice A is correct.** (7.G.4-7.G.6) The student did $3.14 \times 10^2 = 314$ but should have used $r = 5$: $3.14 \times 5^2 = 78.5 \text{ in}^2$.
- 22) **Choice D is correct.** (7.RP.1-7.RP.3) Options A, B, C follow $y = kx$. Option D has form $y = 5 + x$ (with constant), so non-proportional.
- 23) **Choice D is correct.** (7.RP.3) $20\% \times \$500 = 0.20 \times 500 = \100 is correct. Options A, C, and D represent common errors (wrong percent, tax confusion, and flipping categories).
- 24) **Choice B is correct.** (7.NS.1-7.NS.3) $8 \times 8 = 64$, therefore $\sqrt{64} = 8$.
- 25) **The correct answer is $\frac{62}{3}$.** (7.G.1-7.G.5) Set up: $(4y + 6) + (5y - 12) = 180$. Simplify: $9y - 6 = 180$. Solve: $9y = 186$, so $y = \frac{186}{9} = \frac{62}{3} \approx 20.67$.
- 26) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute: $4x + 8 - (x - 5) = 4x + 8 - x + 5$. Combine: $(4x - x) + (8 + 5) = 3x + 13$.
- 27) **The correct answer is 2.** (7.SP.1-7.SP.4) Compute $75 - 73 = 2$.
- 28) **Choice B is correct.** (7.EE.4a) Initial treatment is \$150 plus \$40 per follow-up. Equation: $40v + 150 = 390$.
- 29) **Choice A is correct.** (7.G.1-7.G.5) A plane parallel to the hexagonal bases of a prism produces a cross-section that is a regular hexagon congruent to the original bases, with the same side length and angles.
- 30) **Choice D is correct.** (7.SP.1-7.SP.4) The mode (3 hours, appearing 3 times) is not affected by the outlier. The mean, median, and range all shift when the outlier is present or removed.



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Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **9** full-length Math practice tests and **2** online tests to help Grade 7 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.

THIS BOOK INCLUDES:

9 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ And More!



2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.



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