

8

New York

NYSTP

GRADE 7

MATH

PRACTICE TESTS



Standards Aligned
Problem Solving

For Comprehensive
Assessment Programs



8 PRINTED TESTS



2 ONLINE TESTS



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



BUILD CONFIDENCE



STRENGTHEN SKILLS



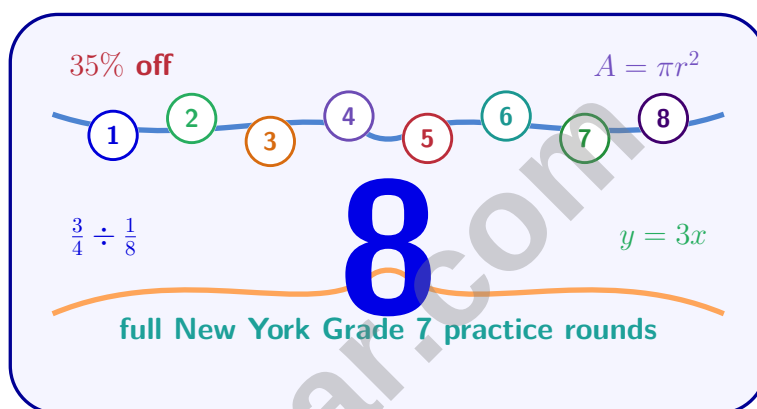
THINK SMARTER



BE TEST-READY

8 New York NYSTP Grade 7 Math Practice Tests

A skill-first tour of New York Grade 7 proportional graphs, expressions, inequalities, geometry, box plots, and probability



Eight 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!

Eight focused rounds for sharper NYSTP math thinking

This book gives you eight 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

An eight-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?

Eight NYSTP tests, 320 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 7–8	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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1) A cylinder has a surface area formula $SA = 2\pi r^2 + 2\pi rh$. This can also be written as:

☐ A. $SA = 2\pi r(r + h)$

☐ C. $SA = 2\pi(r^2 + h^2)$

☐ B. $SA = \pi r(r + h)$

☐ D. $SA = \pi r(2r + h)$

2) The radius of a red blood cell is 2.75×10^{-6} cm. What is this in standard form?

☐ A. 0.00000275 cm

☐ C. 2,750,000 cm

☐ B. 0.000000275 cm

☐ D. 27,500,000 cm

3) Simplify: $(-2b + 6) + (5b - 1)$

☐ A. $3b + 5$

☐ C. $7b + 7$

☐ B. $3b - 5$

☐ D. $-7b + 5$

4) Which value of x satisfies $4x + 2 = 18$?

☐ A. $x = 2$

☐ C. $x = 5$

☐ B. $x = 4$

☐ D. $x = 8$

5) An angle is 26° less than its supplement. What is the measure of the larger angle?

☐ A. 77°

☐ C. 154°

☐ B. 103°

☐ D. 206°

6) The weights (in pounds) of two dog breeds are recorded:

Breed A	Breed B
45, 48, 46, 47, 49	35, 50, 42, 55, 38

Which breed has more consistent weight?

☐ A. Breed A (mean 47, smaller spread)

☐ C. Both have equal consistency

☐ B. Breed B (larger sample size)

☐ D. Cannot determine from the data

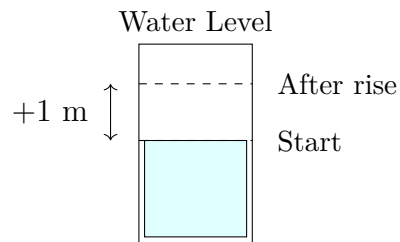

7) Calculate: $4\frac{1}{4} - 1\frac{3}{4}$

☐ A. $2\frac{1}{2}$

☐ B. $3\frac{1}{2}$

☐ C. $2\frac{3}{4}$

☐ D. $3\frac{1}{4}$



8)

A water reservoir is at level -3 m (below ground level). After heavy rain, it rises 1 m. What is the new water level?

☐ A. -4 m

☐ B. -2 m

☐ C. 2 m

☐ D. 4 m

9) A price p increases by 7% . Write the new price in factored form.

☐ A. $p + 0.07p = p(1 + 0.07) = 1.07p$

☐ B. $p - 0.07p$

☐ C. $0.07p$

☐ D. $p + 7$

10) What is the value of $(-2)^3$?

☐ A. 6

☐ B. -8

☐ C. 8

☐ D. 9



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\$20 fee	$\$4.50n$
----------	-----------

Total cost T

11)

A dance studio charges per-class fees shown in the bar model. If there's a \$20 registration fee and \$4.50 per class, which equation shows the total cost T for n classes?

☐ A. $T = 4.50n + 20$

☐ C. $T = 4.50 + 20n$

☐ B. $T = 20n + 4.50$

☐ D. $T = (4.50 + 20)n$

- 12) A budget allocates 40% to housing and 20% to food from a monthly income of \$2 200. How much is allocated to housing and food combined?

 $4\times$

$2x$	-3
------	------

$$4(2x - 3) = 20$$

13)

Solve for x : $4(2x - 3) = 20$

☐ A. $x = 1$

☐ C. $x = 3$

☐ B. $x = 2$

☐ D. $x = 4$



1) Expand and simplify: $-1(x + 5) + 2x$

☐ A. $x - 5$

☐ C. $x + 5$

☐ B. $-x - 5$

☐ D. $3x - 5$

2) A student solved $-4x + 2 > 10$ and wrote $x > -2$. What error did the student make?

☐ A. Did not subtract 2 correctly

☐ C. The solution is actually correct

☐ B. Did not flip the inequality sign when dividing by -4

☐ D. Should have added instead of subtracted

3) A merry-go-round has radius 5 meters. A child rides on it and goes around 4 complete times. How far does the child travel? Use $\pi \approx 3.14$. Round to the nearest tenth.

4) A skateboard costs c dollars. After a 25% discount, the price is $0.75c$. Use distribution to write this as $(1 - ?)c$.

☐ A. $(1 - 0.25)c$

☐ C. $(0.25 - 1)c$

☐ B. $(1 - 0.75)c$

☐ D. $(1 + 0.25)c$

5) A store owner ordered boxes of inventory. Each box costs \$7, and there is a \$23 shipping fee. If the total cost is \$114, which equation represents b , the number of boxes ordered?

☐ A. $7b + 23 = 114$

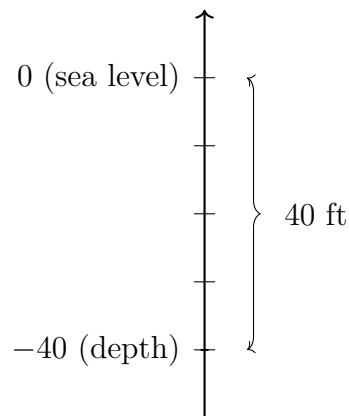
☐ C. $b + 7 + 23 = 114$

☐ B. $23b + 7 = 114$

☐ D. $7(b + 23) = 114$



- 6) A scuba diver descends 40 feet below sea level. Which integer represents this depth?



- ☐ A. 40 (ignores direction/below sea level)
- ☐ B. -80 (double the depth)
- ☐ C. 0 (at sea level, not below)
- ☐ D. -40 (correct; below is negative)
- 7) A cylindrical can contains 301.44 cubic inches of soup. If the radius is 3 inches, what is the height of the can? Use $\pi \approx 3.14$.

- 8) A restaurant manager surveys 40 customers and finds that 32 of them would recommend the restaurant to a friend. What proportion of customers in the sample would recommend the restaurant?



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1) A punch recipe calls for 3 cups orange juice, 2 cups pineapple juice, and 1 cup ginger ale. To make a batch 4 times as large, how many cups of pineapple juice are needed?

- ☐ A. 2 cups ☐ C. 6 cups
☐ B. 4 cups ☐ D. 8 cups

2) A rectangular prism with dimensions $2\text{ cm} \times 3\text{ cm} \times 8\text{ cm}$ is cut diagonally through opposite vertices. The maximum number of faces that can be intersected by such a plane is:

- ☐ A. 3 ☐ C. 5
☐ B. 4 ☐ D. 6

3) A histogram shows the weights (in pounds) of 50 dogs. The intervals are 10–20 lbs, 20–30 lbs, 30–40 lbs, and 40–50 lbs, with frequencies 8, 15, 20, and 7. Which interval contains the mode?

- ☐ A. 10–20 lbs ☐ C. 30–40 lbs
☐ B. 20–30 lbs ☐ D. 40–50 lbs

4)

Color	Purple	Orange	Pink
Probability	$\frac{2}{7}$	$\frac{2}{7}$	$\frac{3}{7}$

Is this a valid probability model?

- ☐ A. Yes, each probability is positive. ☐ C. No, Orange and Purple should have different probabilities.
☐ B. No, the probabilities sum to more than 1. ☐ D. Yes, each probability is at most 1 and they sum to 1.



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5) Expand: $\frac{2}{3}(6a + 9)$

☐ A. $4a + 6$

☐ C. $2a + 3$

☐ B. $6a + 9$

☐ D. $4a + 3$

6) An account balance starts at -50 dollars (debt). If you subtract another 20 dollars from this account, what is the new balance?

☐ A. -30 dollars

☐ C. 30 dollars

☐ B. -70 dollars

☐ D. 70 dollars

7) Identify which term is not a like term with $3x$.

☐ A. $7x$

☐ C. x

☐ B. $-2x$

☐ D. $3x^2$

8) A living room measures 18 feet by 14 feet. On a floor plan with scale $\frac{1}{2}$ inch to 4 feet, what is the area of the room on the floor plan in square inches?



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 A is correct.** **(7.G.4-7.G.6)** Factor out $2\pi r$ from $2\pi r^2 + 2\pi rh$ to get $2\pi r(r + h)$.
- 2) **Choice A is correct.** **(7.NS.1-7.NS.3)** $2.75 \times 10^{-6} = 0.00000275$. Move decimal 6 places left.
- 3) **Choice A is correct.** **(7.EE.1-7.EE.2)** Combine like terms: $(-2b + 5b) + (6 - 1) = 3b + 5$.
- 4) **Choice B is correct.** **(7.EE.3-7.EE.4)** Subtract 2: $4x = 16$. Divide by 4: $x = 4$.
- 5) **Choice B is correct.** **(7.G.1-7.G.5)** Let the smaller angle be x . Then $x + (x + 26) = 180^\circ$, so $2x = 154^\circ$ and $x = 77^\circ$. Larger angle: $77 + 26 = 103^\circ$.
- 6) **Choice A is correct.** **(7.SP.1-7.SP.4)** Breed A ranges from 45–49 (range = 4), while Breed B ranges 35–55 (range = 20). Smaller range indicates greater consistency.
- 7) **Choice A is correct.** **(7.NS.1-7.NS.3)** Regroup the whole and fraction: $4\frac{1}{4} = 3 + 1\frac{1}{4} = 3\frac{5}{4}$. Subtract: $3\frac{5}{4} - 1\frac{3}{4} = 2\frac{2}{4} = 2\frac{1}{2}$.
- 8) **Choice B is correct.** **(7.NS.1-7.NS.3)** New level: $-3 + 1 = -2$ meters.
- 9) **Choice A is correct.** **(7.EE.1-7.EE.2)** A 7% increase is $p + 0.07p = p(1 + 0.07) = 1.07p$. Factoring shows the scale factor.
- 10) **Choice B is correct.** **(7.EE.1-7.EE.2)** An odd exponent preserves the sign of the base: $(-2)^3 = (-2) \cdot (-2) \cdot (-2) = -8$.
- 11) **Choice A is correct.** **(7.EE.4a)** Per-class cost \$4.50 times n classes, plus fixed registration fee \$20.
- 12) **The correct answer is \$1320.** **(7.RP.3)** Housing: $0.40 \times 2200 = \$880$. Food: $0.20 \times 2200 = \$440$. Combined: $\$880 + \$440 = \$1320$.
- 13) **Choice C is correct.** **(7.EE.4a)** Distribute: $8x - 12 = 20$. Add 12: $8x = 32$. Divide by 8: $x = 4$.
- 14) **Choice C is correct.** **(7.EE.3-7.EE.4)** Add 3 to both sides: $\frac{1}{2}x = 8$. Multiply by 2: $x = 16$. Check: $\frac{1}{2}(16) - 3 = 8 - 3 = 5$. Reasonableness: Half of 16 is 8; minus 3 gives 5. ✓
- 15) **The correct answer is 6.** **(7.RP.3)** Year 5: $2000(1.04)^5 = 2433.31$. Year 6: $2000(1.04)^6 = 2530.64 > 2500$.
- 16) **The correct answer is (6, 7).** **(7.NS.1-7.NS.3)** $6^2 = 36$ and $7^2 = 49$. Since $36 < 40 < 49$, the answer is between 6 and 7.
- 17) **Choice B is correct.** **(7.SP.5-7.SP.8)** There are 4 Kings in 52 cards, so $P(\text{King}) = \frac{4}{52} = \frac{1}{13}$.
- 18) **Choice A is correct.** **(7.NS.2)** $-\frac{7}{8} \times 8 = \frac{-7 \times 8}{8} = -7$. The 8's cancel.
- 19) **Choice A is correct.** **(7.SP.3)** Median shows the center/typical value. Even if B's median (55) exceeds A's (50), overlap means some values in A exceed some in B. Median comparison shows typical difference, not individual comparisons.
- 20) **The correct answer is A,C.** **(7.RP.3)** A balanced budget must include money for necessities (A) and reserves for savings and emergencies (C). Options B, D, and E represent poor financial habits that lead to deficit budgets or lack of financial security.
- 21) **Choice D is correct.** **(7.RP.3)** Daily rate for 5 days: $40 \times 5 = \$200$. Insurance premium: $0.15 \times 200 = \$30$. Total: $200 + 30 = \$230$.
- 22) **Choice A is correct.** **(7.G.4-7.G.6)** Start with the large rectangle: $20 \times 15 = 300 \text{ yd}^2$. Subtract the two removed corner sections: $2 \times (4 \times 3) = 24 \text{ yd}^2$. Remaining area: $300 - 24 = 276 \text{ yd}^2$.
- 23) **The correct answer is 8.** **(7.EE.1)** The expression simplifies to $m + 2n$. With $m = 2$ and $n = 3$, the value is $2 + 6 = 8$.
- 24) **Choice D is correct.** **(7.RP.1-7.RP.3)** Scale 1 in. = 4 ft. means $\frac{1}{4} = \frac{x}{16}$, so $x = 4$ inches. The student incorrectly multiplied instead of dividing.
- 25) **Choice A is correct.** **(7.G.4-7.G.6)** $V = s^3 = 5^3 = 125 \text{ in}^3$.
- 26) **Choice A is correct.** **(7.G.1-7.G.5)** By the Pythagorean Theorem: $d = \sqrt{8^2 + 6^2} = \sqrt{64 + 36} = \sqrt{100} = 10$ units.
- 27) **Choice A is correct.** **(7.G.4-7.G.6)** Circle X has radius 6 cm. Circle Y has diameter 6 cm, so its radius is 3 cm. Circle X has the larger radius.
- 28) **Choice B is correct.** **(7.G.1-7.G.5)** The third angle is $180^\circ - 30^\circ - 50^\circ = 100^\circ$. With two known angles and one known side, we have ASA (Angle-Side-Angle) or AAS (Angle-Angle-Side), both of which determine a unique triangle.
- 29) **Choice B is correct.** **(7.SP.1-7.SP.4)** $\frac{45}{120} = \frac{x}{840}$. Reduce to $\frac{3}{8} = \frac{x}{840} \Rightarrow x = 315$.



Hi, Future Algebra Thinker!

◇ Grade 7 practice prepares you for the next math steps. Expressions, equations, proportional relationships, and graphs are all part of that bridge. This wide-ranging book gave you eight serious Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** Every time you solved for an unknown or explained a relationship, you were building skills that future math will use again. ★

Bridge Skills

- **Use Variables:** Let letters stand for unknown values.
- **Balance Equations:** Keep both sides fair.
- **Read Graphs:** Connect points to meaning.
- **Compare Rates:** Look for constant relationships.

Grade 7 test-day tip: When you see a variable, say what it represents. That keeps algebra connected to the problem.

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

Jay Daie

Your Algebra Bridge Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** 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:

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

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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.



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Familiarize with test formats and improve accuracy and speed.



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