

# 10

# Nebraska NSCAS Growth

GRADE  
**7**  
MATH

## PRACTICE TESTS

Standards Aligned Problem  
Solving For Comprehensive  
Assessment Programs



### 10 PRINTED TESTS

Realistic practice to build  
confidence and mastery



### 2 ONLINE TESTS

Extra practice for  
continued success



### DETAILED ANSWER EXPLANATIONS

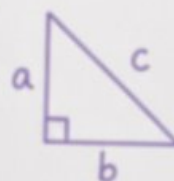
Learn with step-by-step  
solutions



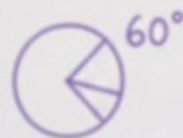
### FOCUSED & EFFECTIVE

Target key math skills  
with purposeful practice

$$y = mx + b$$



$$2x - 3 = 11$$



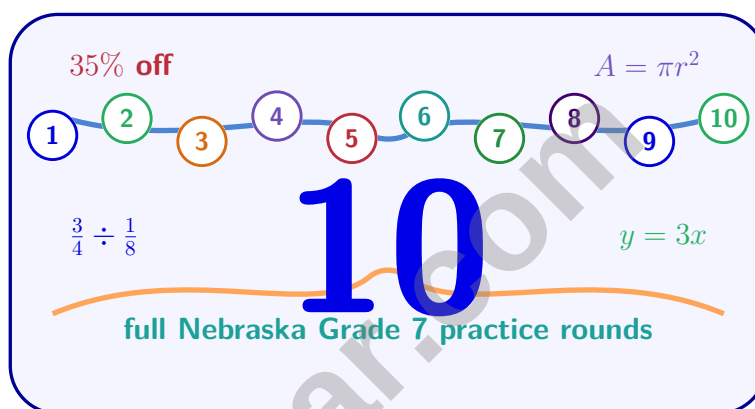
**10** PRINTED TESTS  
**+2** ONLINE TESTS

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

**PRACTICE ★ REVIEW ★ SUCCEED**

# 10 Nebraska NSCAS Growth Grade 7 Math Practice Tests

*Nebraska Grade 7 NSCAS Growth Practice for organized review through unit rates, rational numbers, equations, surface area, data, and chance*



Ten complete 40-question Grade 7 NSCAS Growth 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, Nebraska Grade 7 Problem Solver!

Ten focused rounds for sharper Nebraska NSCAS Growth math thinking

This book gives you ten full Grade 7 NSCAS Growth 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 Nebraska 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 ten-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.

**Nebraska 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?

Ten Nebraska NSCAS Growth tests, 400 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.                 |
| Test 10      | A final Nebraska round to show growth across the whole book.                                       |
| 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.



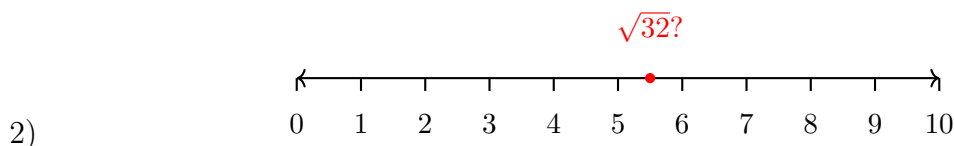
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- 1) Which of the following is an example of a rigid transformation (one that preserves distance and angles)?

- ☐ A. Reflection over the  $x$ -axis      ☐ C. Rotation of  $45^\circ$   
☐ B. Dilation by a factor of 2      ☐ D. Shearing the figure



Is  $\sqrt{32}$  closer to 5 or 6?

- ☐ A. closer to 5      ☐ C. exactly halfway  
☐ B. closer to 6      ☐ D. cannot be determined
- 3) City M has temperatures with range 4 degrees (all between  $68$ – $72^\circ\text{F}$ ). City N has temperatures from  $60$  to  $80$  degrees. Both cities have the same median temperature of  $70^\circ\text{F}$ . Which city is more predictable for planning outdoor events?

- 4) An online store applies a 20% markup to all wholesale costs. If the wholesale cost is  $w$ , the selling price is  $1.2w$ . Which real-world scenario best uses this expression?
- ☐ A. Finding the sale price after a 20% off promotion      ☐ C. Finding the original price if the marked-up price is known  
☐ B. Finding the price after a 20% surcharge is added      ☐ D. Finding the tax owed on the wholesale cost



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5) Solve:  $6x - 8 = 28$

☐ A.  $x = 4$

☐ C.  $x = 6$

☐ B.  $x = 5$

☐ D.  $x = 8$

6) A school cafeteria offers lunch combinations with a choice of 2 sides (Salad or Veggies), 3 proteins (Chicken, Fish, Beef), and 2 breads (Roll or Cornbread). How many different lunches can be made?

☐ A. 7

☐ C. 18

☐ B. 12

☐ D. 36

7) A fair die is rolled. What is the probability of rolling an even number?

☐ A.  $\frac{1}{6}$

☐ C.  $\frac{1}{2}$

☐ B.  $\frac{2}{6}$

☐ D.  $\frac{2}{3}$

8) An event has a probability of  $\frac{2}{5}$ . What is the probability of the complement (the event NOT happening)?

☐ A.  $\frac{2}{5}$

☐ C.  $\frac{1}{5}$

☐ B.  $\frac{3}{5}$

☐ D.  $\frac{5}{2}$

9) A coin was flipped 1000 times as part of an experiment to test the law of large numbers. The results showed 495 heads and 505 tails. Which statement best explains this outcome?

☐ A. The coin is unfair because heads appeared fewer times.

☐ C. The coin should show exactly 500 heads and 500 tails.

☐ B. With a large number of trials, the experimental probability approaches the theoretical probability.

☐ D. This result proves the coin is biased toward tails.



- 10) A student estimated her project would weigh 850 grams. The actual weight is 1000 grams. What is the percent error?

☐ A. 17.6% ☐ C. 20%  
☐ B. 82.4% ☐ D. 15%

- 11) Team P has MAD 3% and Team Q has MAD 8%. What is the ratio of Q's MAD to P's MAD?

- 12) Expand:  $\frac{1}{4}(8b - 12)$

☐ A.  $2b - 3$  ☐ C.  $8b - 3$   
☐ B.  $2b - 12$  ☐ D.  $2b - 4$

- 13) A bank offers two savings accounts. Account A: \$1000 at 6% for 3 years. Account B: \$1500 at 2% for 3 years. Which account earns more interest?

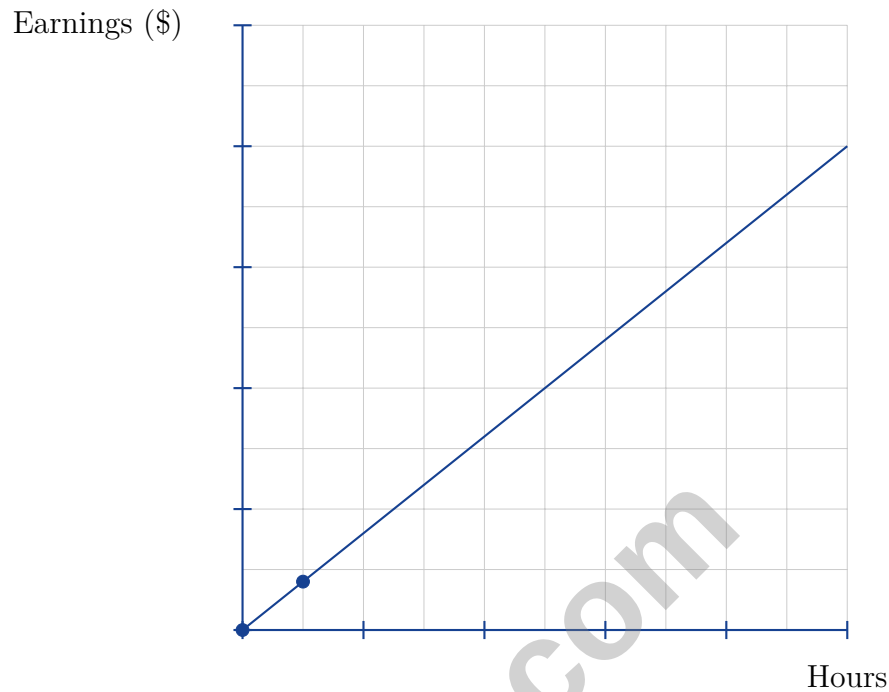
☐ A. Need the bank's name to determine ☐ C. Both earn the same  
☐ B. Account B ☐ D. Account A

- 14) What is  $-7 - 4$ ?

☐ A. 3 ☐ C. -11  
☐ B. -3 ☐ D. 11



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1)

A proportional graph shows earnings over hours, passing through the origin and the unit-rate point  $(1, 0.8)$ . What is the hourly wage?

☐ A. \$10.00 per hour

☐ C. \$8.00 per hour

☐ B. \$1.00 per hour

☐ D. \$0.80 per hour

2) The ordered data is: 15, 18, 21, 24, 27, 30, 33. In the stem-and-leaf plot, what is the position of the median in the ordered list?

☐ A. 3rd position

☐ C. 5th position

☐ B. 4th position

☐ D. 6th position


- 3) Account balance was  $-\$45$  (overdrawn). After a deposit of  $\$100$ , what is the new balance?

- 4) A rectangular prism with a volume of  $360 \text{ m}^3$  has a base area of  $40 \text{ m}^2$ . Find the height.

- ☐ A. 4 m                      ☐ C. 9 m  
☐ B. 7 m                      ☐ D. 14400 m

- 5) Expand:  $\frac{1}{3}(9y - 12)$

- ☐ A.  $3y - 4$                       ☐ C.  $3y - 12$   
☐ B.  $9y - 4$                       ☐ D.  $y - 4$

- 6) Which factorization is incorrect?

- ☐ A.  $-3x - 9 = -3(x + 3)$                       ☐ C.  $-5a + 15 = -5(a + 3)$   
☐ B.  $-2y + 8 = 2(-y + 4)$                       ☐ D.  $-4m - 20 = -4(m + 5)$



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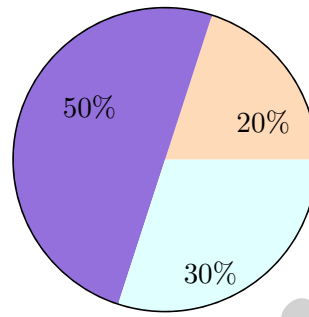
1) Check which solution is correct for  $6x + 2 = 26$ .

☐ A.  $x = 2$

☐ C.  $x = 5$

☐ B.  $x = 4$

☐ D.  $x = 6$



2)

The circle graph displays energy sources for a town. Peachpuff is coal (20%), purple is renewable (50%), and cyan is natural gas (30%). If the town uses 5000 MW total, how much comes from renewable?

☐ A. 1000

☐ C. 2500

☐ B. 1500

☐ D. 4000

3) A fair coin is flipped 200 times in a simulation. The theoretical probability of getting heads is 0.5. Approximately how many times would you expect to see heads?



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4) Convert the following to scientific notation and identify its exponent: 6,800,000,000.

☐ A. Exponent is 8

☐ C. Exponent is 10

☐ B. Exponent is 9

☐ D. Exponent is 11

5) Simplify:  $(-8d + 3) - (4d - 7)$

☐ A.  $-12d + 10$

☐ C.  $-12d - 4$

☐ B.  $-4d - 4$

☐ D.  $-4d + 10$

6) Simplify:  $7^1$

☐ A. 0

☐ C. 7

☐ B. 1

☐ D. 49

7) A carpenter charges \$180 for 6 hours of work. What is the hourly rate?

8) A concert ticket costs \$35 and a service fee is \$6.50 per ticket. If someone buys 3 tickets, what is the total cost?

☐ A.  $3(35 + 6.50) = \$124.50$

☐ C.  $35 + 3 + 6.50 = \$44.50$

☐ B.  $3(35) + 3(6.50) = \$124.50$

☐ D.  $35(3) + 6.50 = \$111.50$

9) A teacher buys 5 notebooks at \$ $x$  each and spends a total of \$45 (including a \$5 coupon discount). What is the price per notebook?

☐ A. \$8

☐ C. \$10

☐ B. \$9

☐ D. \$12



## Nebraska NSCAS Growth 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 Nebraska NSCAS Growth practice test.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.G.1-7.G.5) A rigid transformation preserves all distances and angles. Reflection, rotation, and translation are rigid. Dilation (option B) and shearing (option D) change size or shape, so they are not rigid.
- 2) **Choice B is correct.** (7.NS.1-7.NS.3)  $5^2 = 25$  and  $6^2 = 36$ . Since 32 is much closer to 36 than to 25,  $\sqrt{32}$  is closer to 6 (approximately 5.66).
- 3) **The correct answer is City M.** (7.SP.3) Range is a measure of spread. A smaller range indicates less variability and more predictable conditions, making planning easier. A larger range indicates high variability and unpredictability, even if the typical (median) temperature is the same.
- 4) **Choice B is correct.** (7.EE.1-7.EE.2) A markup of 20% means adding 20% to the cost:  $w + 0.2w = 1.2w$ . This matches a surcharge or fee being added.
- 5) **Choice C is correct.** (7.EE.3-7.EE.4) Add 8:  $6x = 36$ . Divide by 6:  $x = 6$ .
- 6) **Choice B is correct.** (7.SP.5-7.SP.8) By the counting principle:  $2 \times 3 \times 2 = 12$  different lunch combinations.
- 7) **Choice C is correct.** (7.SP.5-7.SP.8) Even numbers: 2, 4, 6 (3 outcomes).  $P(\text{even}) = \frac{3}{6} = \frac{1}{2}$ .
- 8) **Choice B is correct.** (7.SP.5-7.SP.8) Complement:  $P(\text{not } A) = 1 - P(A) = 1 - \frac{2}{5} = \frac{3}{5}$ .
- 9) **Choice B is correct.** (7.SP.6) The law of large numbers states that as the number of trials increases, the experimental probability converges toward the theoretical probability. Both 0.495 and 0.505 are very close to the theoretical 0.5, which is expected with 1000 trials.
- 10) **Choice D is correct.** (7.RP.3) Percent error =  $\frac{|850 - 1000|}{1000} \times 100\% = \frac{150}{1000} \times 100\% = 15\%$ .
- 11) **The correct answer is  $\frac{8}{3}$ .** (7.SP.1-7.SP.4) The ratio is  $8 \div 3 = \frac{8}{3}$ .
- 12) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute  $\frac{1}{4}$ :  $\frac{1}{4}(8b) - \frac{1}{4}(12) = 2b - 3$ .
- 13) **Choice D is correct.** (7.RP.3) Account A:  $1000 \times 0.06 \times 3 = \$180$ . Account B:  $1500 \times 0.02 \times 3 = \$90$ . Account A earns more interest.
- 14) **Choice C is correct.** (7.NS.1-7.NS.3)  $-7 - 4 = -7 + (-4) = -11$ .
- 15) **Choice D is correct.** (7.RP.1-7.RP.3) Using the scale 1 cm = 5 m: width is  $4 \times 5 = 20$  m; height is  $3 \times 5 = 15$  m.
- 16) **Choice D is correct.** (7.RP.3) 70% of 80 is  $0.70 \times 80 = 56$  students.
- 17) **Choice D is correct.** (7.RP.3) From row 1: markup is  $56 - 40 = \$16$  on cost of \$40, a 40% markup. For cost \$50: markup =  $0.40 \times 50 = \$20$ , so selling price =  $50 + 20 = \$70$ .
- 18) **Choice C is correct.** (7.NS.1b) Both numbers are positive, so add them:  $18 + 27 = 45$ .
- 19) **The correct answer is A,B.** (7.G.4-7.G.6) A is correct: volume  $V = B \times h$  for any prism. B is correct:  $V = 4^3 = 64 \text{ cm}^3$ . C is false: doubling height doubles volume, not triples it. D is false: a triangular prism can have larger volume than a rectangular prism depending on dimensions.
- 20) **Choice A is correct.** (7.EE.1-7.EE.2) Find GCF of 8 and 20: it is 4. Since both terms have  $b$ , the GCF is  $4b$ .
- 21) **Choice B is correct.** (7.SP.1-7.SP.4) 8% of 50,000 =  $0.08 \times 50,000 = 4000$  users.
- 22) **Choice B is correct.** (7.SP.5-7.SP.8) By the Law of Large Numbers, as the number of trials increases, the relative frequency (experimental probability) converges to the theoretical probability. With 10000 spins, the relative frequency of 0.32 is a strong estimate of the true theoretical probability.
- 23) **Choice D is correct.** (7.EE.1-7.EE.2) Substitute:  $3(1)^2 - 2(1) + 4 = 3(1) - 2 + 4 = 3 - 2 + 4 = 5$ .
- 24) **Choice A is correct.** (7.EE.1) Combine  $x^2$  terms and  $x$  terms:  $(9 + 3)x^2 + (2 - 4)x = 12x^2 - 2x$ .
- 25) **The correct answer is 60.** (7.SP.1-7.SP.4) Sum the frequencies:  $8 + 14 + 18 + 12 + 8 = 60$  people.
- 26) **Choice B is correct.** (7.NS.1-7.NS.3) Half the recipe:  $\frac{2}{3} \div 2 = \frac{1}{3}$  cup. Find common denominator 12:  $\frac{1}{3} = \frac{4}{12}$  and  $\frac{1}{4} = \frac{3}{12}$ . Add:  $\frac{4}{12} + \frac{3}{12} = \frac{7}{12}$  cup.
- 27) **Choice B is correct.** (7.NS.1-7.NS.3)  $\frac{7}{10} \div \frac{7}{15} = \frac{7}{10} \times \frac{15}{7} = \frac{105}{70} = \frac{3}{2}$ .
- 28) **The correct answer is 0.75.** (7.SP.5-7.SP.8) Divide:  $3 \div 4 = 0.75$ .



## Hi, Math Hero!

◇ This full-length book gave you ten complete Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. You showed up for Grade 7 practice again and again. That is what real growth looks like: steady effort, honest review, and a willingness to try. ◇

★ **Remember this:** A math hero is not someone who never misses a question. A math hero learns from the miss and comes back stronger. ★

### Hero Habits

- **Courage:** You try problems that are not automatic.
- **Honesty:** You review what needs work.
- **Patience:** You let skills grow over time.
- **Pride:** You recognize the effort you gave.

**Grade 7 test-day tip:** Save one solved problem you are proud of. Looking back at progress helps motivation stay strong.

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Hero Guide

# PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 10 full-length Math practice tests and 2 extra 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:

**10** 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
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



## 2 EXTRA ONLINE TESTS

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



## 2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



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SOLVE  
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SUCCEED  
BRIGHTLY

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