

5 Full-Length Texas STAAR Grade 7 Math Practice Tests

Extra Practice for Test Day Success

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5 Practice Tests



 Grade 7 Math — Chart Your Path 

Welcome, math explorer!

This journal holds **5 full expeditions** across the entire landscape of Grade 7 math. From the peaks of proportional reasoning to the valleys of negative numbers, every trail is mapped and waiting for you.

-  **Trail 1–2:** Scout the terrain at your own pace
-  **Trail 3–4:** Push deeper with timed conditions
-  **Trail 5:** Summit the mountain — full test simulation

Every great explorer starts with a single step.

Yours starts on the next page.

“ Five trails gives you the journey every explorer needs: discover, practice, and conquer. Pack your pencils — the expedition begins! ”



Trail Guide

Your route map for 5 math expeditions

What's in This Journal

- **5 Full-Length Practice Tests** — each trail covers all 9 domains of Grade 7 math, from ratios and proportional relationships to probability and compound events.
- **Step-by-Step Answer Explanations** — not just answers, but a guided walkthrough of every solution path.
- **Expedition Log** — chart your scores, note tricky terrain, and celebrate the trails you've conquered.

Your 5-Trail Itinerary

Spread your trails over several weeks for the best journey:

Week 1: Trail 1 — untimed. Explore the landscape. Mark unfamiliar territory.

Week 2: Study the rough terrain from Trail 1. Then attempt Trail 2 (soft timer).

Week 3: Trail 3 — timed (65 min). Compare with Trail 1 to see growth.

Week 4: Focus on weak spots. Trail 4 — timed. Practice showing all work.

Week 5: Trail 5 — full conditions. The summit attempt!

Multiple Choice

Navigate four options and select the best path. Eliminate wrong answers first — like crossing streams off a map.

 **Explorer's tip:** Work the problem yourself before reading the choices.

Constructed Response

Show every calculation, label every unit, and explain your reasoning. Like a field journal, your work tells the full story.

 **Explorer's tip:** Even a partial trail earns credit. Never leave it blank.

Survival Skills

Essential navigation strategies for every trail

The Four-Point Compass

↑ **N** — *Note the key info*

Circle numbers. Underline the question.

← **W** — *Weigh your answer*

Does it match the question and estimate?

→ **E** — *Estimate first*

Get a ballpark answer before solving.

↓ **S** — *Solve step by step*

Write equations. Show every operation.

Grade 7 Terrain Warnings

 **Negative numbers:** Watch signs when multiplying and dividing rational numbers.

 **Proportions:** Make sure both ratios compare the same quantities in the same order.

 **Percent problems:** Identify whether you need the part, the whole, or the percent.

 **Geometry:** Label all measurements and don't confuse area with perimeter, or surface area with volume.

 **Probability:** Read whether the question asks for theoretical or experimental probability.

 Pacing Your Trek

- Trails 1–2: Untimed (explore freely)
- Trails 3–4: Timed (65 minutes)
- Trail 5: Strict test conditions
- Don't sprint — steady pace wins

 After Each Trail

- Read every answer explanation
- Mark the topic, not just the question
- Log your results in the Expedition Log
- Study rough terrain before the next trail



“ The best explorers don't avoid rough terrain — they study it. Every wrong answer is a trailhead to a deeper understanding. Follow those paths. ”



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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. $10^3 = 1,000$
$\frac{a}{b}$	Fraction	a parts out of b equal parts; also means $a \div b$.
$\frac{7}{3}$	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 $10\times$ 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



<i>Practice Test 1</i>	<i>1</i>
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PREVIEW



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PREVIEW

PRACTICE TEST

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. On a proportional graph, the point $(1, r)$ represents:

- (A) The x -intercept
- (B) The constant of proportionality
- (C) The slope of the line
- (D) Both B and C

2. Small paint can: $\frac{3}{4}$ gallon for \$18. Large can: $1\frac{1}{2}$ gallons for \$33. Which is the better buy?

- (A) Small, at \$22/gal
- (B) Large, at \$22/gal
- (C) Small, at \$24/gal
- (D) Large, at \$24/gal

3. A class has 32 students. If 75% passed the test, how many students passed?

- (A) 20
- (B) 24
- (C) 25
- (D) 28

4. Miranda says that a 50% increase followed by a 50% decrease gives back the original price. Is she correct?

- (A) Yes, because the two changes cancel out
- (B) No, the result is less than the original
- (C) No, the result is more than the original
- (D) It depends on the starting price

5. You want to earn \$200 in interest in 4 years at 5% simple interest. How much must you deposit?

- (A) \$800
- (B) \$1,000
- (C) \$1,200
- (D) \$2,000



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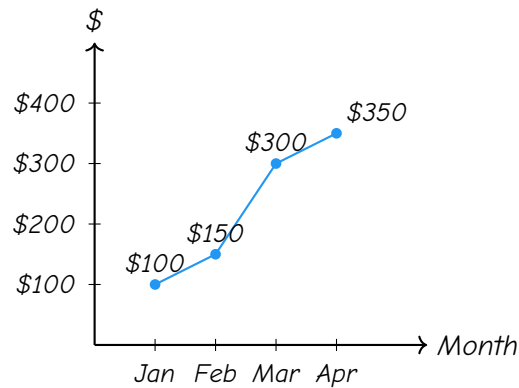
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6. Bank A pays 3% interest per year. Bank B pays 1% per year. You deposit \$1,000 in each for 1 year. How much more interest does Bank A earn?

Your Answer:

7. The line graph shows a student's savings account balance over 4 months. Between which two months did the balance increase the most?



- (A) Jan to Feb
(B) Feb to Mar
(C) Mar to Apr
(D) Jan to Mar

8. Explain in your own words why compound interest grows faster than simple interest.

Your Answer:

9. What is the value of $3x - 5$ when $x = 4$?

- (A) 2
(B) 7
(C) 17
(D) -2



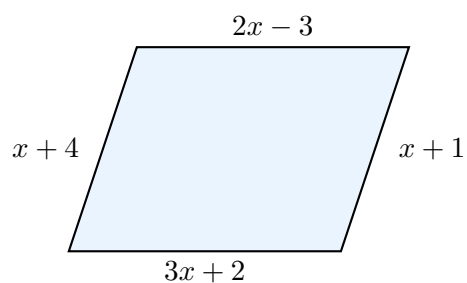
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10. The lengths of the four sides of a quadrilateral are shown below. What is the simplified perimeter?



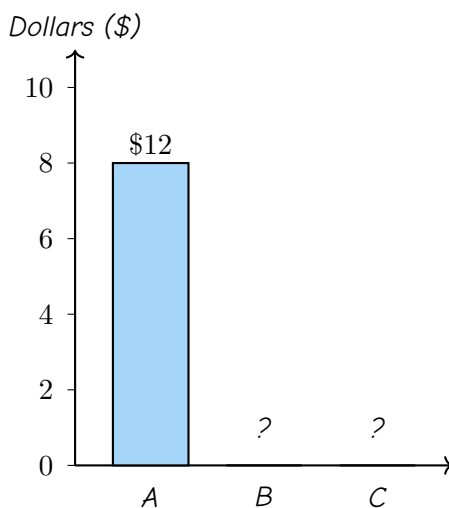
- (A) $7x + 4$ (B) $6x + 4$
(C) $7x - 4$ (D) $6x + 10$

11. Solve $6(x - 1) = -18$.

- (A) $x = -2$ (B) $x = 2$
(C) $x = -4$ (D) $x = 4$



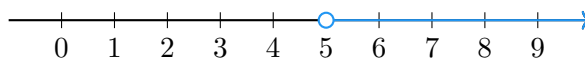
12. The bar graph shows how much three students earned. Together they earned a total of \$31.50. Student C earned $\frac{1}{2}$ as much as Student A. Find how much Student C earned.



Student A earned \$12, and Student C earned $\frac{1}{2}$ of Student A's earnings.

Your Answer:

13. Which inequality is represented by the number line below?



- (A) $x \geq 5$ (B) $x > 5$
(C) $x \leq 5$ (D) $x < 5$

14. True or false: The graph of $x < 5$ and $x \leq 5$ look exactly the same.

- (A) True — both shade to the left of 5 (B) False — $x < 5$ has an open circle, $x \leq 5$ has a closed circle
(C) False — they shade in different directions (D) True — the circle type does not matter



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15. A drawing uses $1 \text{ cm} = 6 \text{ m}$. It is redrawn at $1 \text{ cm} = 2 \text{ m}$. The original drawing is 8 cm by 5 cm. What is the perimeter of the new drawing?

- (A) 26 cm (B) 39 cm
(C) 78 cm (D) 120 cm

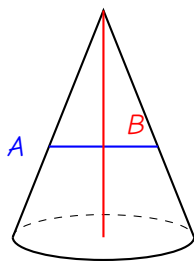
16. Which condition makes it impossible to draw a triangle?

- (A) Sides 5, 12, 13 (B) Sides 7, 7, 7
(C) Sides 1, 1, 3 (D) Sides 8, 15, 17

17. Two angles of a triangle are 72° and 53° . What is the third angle?

Your Answer:

18. The diagram shows a cone being sliced. Which cut produces a circular cross-section?



- (A) Cut A (horizontal) (B) Cut B (vertical through apex)
(C) Both cuts (D) Neither cut



19. Two similar triangles have corresponding sides 6 and 10. If the perimeter of the smaller triangle is 18 cm, what is the perimeter of the larger triangle?

Your Answer:

20. A composite shape is made of a rectangle that is 10 cm by 4 cm and a triangle with base 10 cm and height 3 cm attached to one side. What is the total area?

(A) 40 cm^2

(B) 55 cm^2

(C) 70 cm^2

(D) 120 cm^2

21. What is the surface area of a rectangular prism with length 5 cm, width 3 cm, and height 2 cm?

(A) 30 cm^2

(B) 62 cm^2

(C) 46 cm^2

(D) 31 cm^2

22. A sandbox is 6 ft long, 4 ft wide, and 1 ft deep. Sand costs \$2 per cubic foot. How much does it cost to fill the sandbox?

(A) \$12

(B) \$24

(C) \$48

(D) \$96

23. A random sample of 50 apples from an orchard found that 6 were bruised. If the orchard has 3,000 apples, about how many are bruised?

Your Answer:



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24. Why do different random samples from the same population often produce different results?

- (A) Because the population changes each time
(B) Because of random variation in sample selection
(C) Because the data is incorrect
(D) Because the samples are biased

25. Data: 5, 5, 10, 10, 10, 15, 15. The mean is 10. Find the MAD.

Your Answer:

26. A back-to-back stem-and-leaf plot shows Team A's leaves as 8 5 3 and Team B's leaves as 1 4 7 for stem 6. List all values for both teams.

Your Answer:

27. Out of 80 students, 24 like pizza best. What angle should the pizza sector have in a circle graph?

- (A) 24°
(B) 72°
(C) 108°
(D) 120°

28. A fair die is rolled. Which probability model correctly shows the probability of each outcome?

- (A) $P(1) = \frac{1}{6}, P(2) = \frac{1}{6}, P(3) = \frac{1}{6}, P(4) = \frac{1}{6}, P(5) = \frac{1}{6}, P(6) = \frac{1}{6}$
(B) $P(1) = \frac{1}{6}, P(2) = \frac{2}{6}, P(3) = \frac{3}{6}, P(4) = 0, P(5) = 0, P(6) = 0$
(C) $P(\text{even}) = \frac{1}{2}, P(\text{odd}) = \frac{1}{2}$
(D) $P(1) = \frac{1}{3}, P(2) = \frac{1}{3}, P(3) = \frac{1}{3}$

29. Two dice are rolled. What is the probability that the sum is 10 or greater? Write your answer as a fraction in simplest form.

Your Answer:



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30. The table shows a simulation using random digits 0–9 to model a 30% chance of rain. Digits 0, 1, 2 represent rain. Based on the 10 trials below, what is the experimental probability of rain?

<i>Trial</i>	<i>Digit</i>	<i>Rain?</i>
1	5	No
2	1	Yes
3	8	No
4	0	Yes
5	3	No
6	7	No
7	2	Yes
8	9	No
9	4	No
10	6	No

(A) $\frac{2}{10} = 0.20$

(B) $\frac{3}{10} = 0.30$

(C) $\frac{4}{10} = 0.40$

(D) $\frac{7}{10} = 0.70$



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★ *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!*

THANK YOU

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