5 Full-Length Oklahoma OSTP 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.* **❞**

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 → Exponents → Multiply/Divide → 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	**Decimals**	
Hundred-Thousands	100,000	Tenths	0.1
Ten-Thousands	10,000	Hundredths	0.01
Thousands	1,000	Thousandths	0.001
Hundreds	100		
Tens	10		
Ones	1		

*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** $(\times)$: each, every, groups of, times, product, per, of (with fractions)
- **Divide** $(\div)$: share equally, split, each group, how many groups, quotient, per

Contents

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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. On a scale model, 1 cm represents 25 m. If a bridge on the model is 6 cm long, what is the actual length of the bridge?

(A) 125 m

(B) 150 m

(C) 31 m

(D) 600 m

4. A baker made 120 cupcakes and sold 90 of them. What percent of the cupcakes were sold?

(A) 60%

(B) 70%

(C) 75%

(D) 80%

5. Which is the correct order to calculate a final price?

(A) Tax ⬚ Discount ⬚ Markup

(B) Markup ⬚ Tax ⬚ Discount

(C) Discount ⬚ Tax ⬚ Markup

(D) Markup ⬚ Discount ⬚ Tax

6. You guessed there were 300 people at a concert. The actual attendance was 350. Find the percent error (rounded to the nearest tenth).

Your Answer:

7. The bar graph shows interest earned on a $1,000 deposit at three different banks after 1 year. Which bank pays the highest interest rate?

Interest ($)

$40

$35

$30

$20

$20

$15

$10

$0

Bank X   Bank Y   Bank Z

(A) Bank X

(B) Bank Y

(C) Bank Z

(D) They all pay the same

8. Which integer is 5 units to the left of 2 on the number line?

Your Answer:

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

(A) 2

(B) 7

(C) 17

(D) -2

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

$$2x - 3$$

$$x + 4 \qquad\qquad x + 1$$

$$3x + 2$$
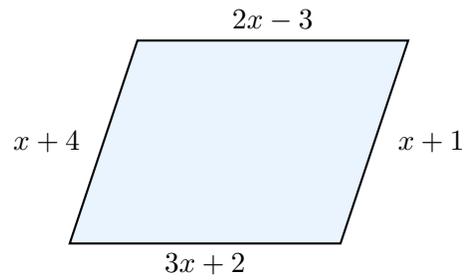
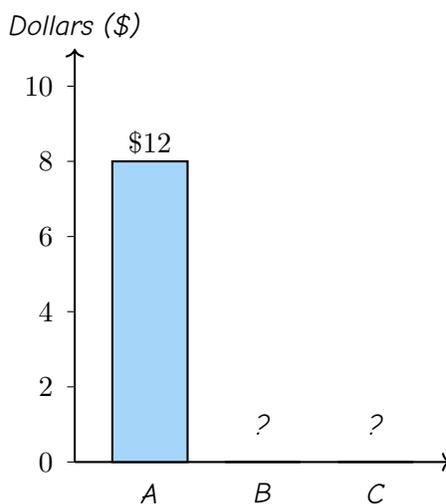(A) $7x + 4$ (B) $6x + 4$

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

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

(A) $x = -2$ (B) $x = 2$

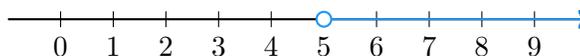(C) $x = -4$ (D) $x = 4$

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.

Dollars ($)

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

15. A drawing uses $1\ cm = 6\ m$. It is redrawn at $1\ cm = 2\ m$. 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. Three angles meet at a point on a line: 50°, $(2x + 10)$°, and x°. Find x.

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:

24. When comparing two populations visually, you should look at:

(A) Only the center (mean or median)

(B) Only the spread (range or MAD)

(C) Both the center and the spread

(D) Only the largest and smallest values

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. *A double bar graph shows that Store A sold* 200 *items in June and* 250 *in July. Store B sold* 180 *in June and* 300 *in July. Which store had a bigger increase?*

- (A) Store A (increase of 50)
- (B) Store B (increase of 120)
- (C) They had the same increase
- (D) Neither store increased

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) $P(even) = \frac{1}{2}$, $P(odd) = \frac{1}{2}$
- (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:

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?

Trial	Digit	Rain?
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) $\frac{7}{10} = 0.70$

⭐ *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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