6 District of Columbia DC CAPE Math Practice Tests for Grade 7 Students

- Practice Smart. Score Higher.
- Learn Today, Excel Tomorrow!
- Conquer the DC CAPE with Confidence!



Practice Master Achieve

Reza Nazari



District of Columbia DC CAPE Grade 7 Math
Practice Tests

A Complete Guide to Building Math Mastery
and Excelling on the District of Columbia DC CAPE Test

Reza Nazari

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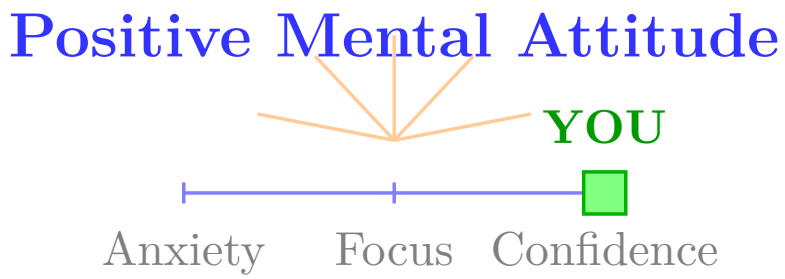
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Mindset for Success

Preparing Your Mind for the Challenge



Your attitude determines your direction.

- **Believe in Yourself:** You have prepared for this. Trust your training and your ability to figure things out.
- **Stay Positive:** If you encounter a difficult question, don't panic. Take a deep breath, mark it, and move on. You can come back to it with a clearer mind.
- **Rest and Recover:** Your brain needs sleep to function at its best. Get a good night's sleep before the test and eat a healthy breakfast.
- **Visualize Success:** Imagine yourself sitting at the desk, calm and focused, answering questions correctly. Visualization can help reduce anxiety.

"Success is the sum of small efforts, repeated day in and day out." – Robert Collier

Math Review Cheat Sheets

RATIOS & PROPORTIONS

▶ What is a Ratio?

A ratio compares two quantities. Write it three ways:

5 to 3 | 5 : 3 | $\frac{5}{3}$

▶ Unit Rate = "Per ONE"

Divide to find the amount for 1 unit.

Example: \$24 for 6 gallons

$\$24 \div 6 = \$4$ **per gallon**

▶ Solving Proportions

Cross Multiply!

$$\frac{2}{5} = \frac{x}{15}$$

$$5 \times x = 2 \times 15$$

$$5x = 30$$

$$x = \mathbf{6}$$

WATCH OUT: Keep units in the same order! If top is miles, bottom must be miles on both sides.

PERCENTS

▶ Percent = "Out of 100"

Converting

% → Decimal
Divide by 100 (move left 2)

Decimal → %
Multiply by 100 (move right 2)

Quick Conversions

%	Dec	Frac
50%	0.5	$\frac{1}{2}$
25%	0.25	$\frac{1}{4}$
10%	0.1	$\frac{1}{10}$

▶ Three Types of Percent Problems

Find the Part
What is 20% of 80?
$0.20 \times 80 = 16$

Find the Percent
16 is what % of 80?
$16 \div 80 = 0.2 = 20\%$

Find the Whole
16 is 20% of what?
$16 \div 0.20 = 80$

PRO TIP: "Of" means multiply. "Is" means equals. Translate word problems!

Scan Me

Read carefully
Scan for a tip

FRACTION OPERATIONS

▶ Dividing Fractions: Keep · Change · Flip

$$\frac{3}{4} \div \frac{2}{5} \longrightarrow \underbrace{\frac{3}{4}}_{\text{KEEP}} \underbrace{\times}_{\text{CHANGE}} \underbrace{\frac{5}{2}}_{\text{FLIP}} \longrightarrow = \frac{15}{8} = 1\frac{7}{8}$$

▶ Multiplying Fractions

Multiply straight across—top × top, bottom × bottom.

$$\frac{2}{3} \times \frac{4}{5} = \frac{2\times4}{3\times5} = \frac{8}{15}$$

Simplify before or after multiplying!

▶ Adding/Subtracting Fractions

Must have the **same denominator** first!

$$\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}$$

Find the LCD (Least Common Denominator)!

WATCH OUT: When adding fractions, find the LCD first. Then add only the numerators, keep the same denominator!

Read carefully
Scan for a tip

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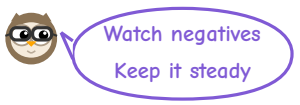
FORMULA QUICK REFERENCE

Percent $\frac{\text{part}}{\text{whole}} \times 100$	**Mean** $\frac{\text{sum}}{\text{count}}$	**Unit Rate** $\frac{\text{amount}}{\text{units}}$
Triangle $A = \frac{1}{2}bh$	**Rectangle** $A = bh$	**Volume** $V = lwh$

You're Prepared!

Review these formula sheets before each practice test. The more you practice, the more confident you'll become. Trust your preparation and show what you know!

Good luck on the test!



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Grade 7 Math

Grade 7 Mathematics

1

Questions: 40 **Duration:** No time limit

Calculator Policy: Basic calculators are allowed

Important Test Information

Question Types:

- **Multiple Choice:** Choose the best answer from the four options (A, B, C, or D).
- **Open-Ended:** Write your complete answer in the space provided.

Test-Taking Tips:

- Read each question carefully before answering.
- Check your answers before moving on.
- Use the formula sheet as needed.

Remember: Take your time, stay calm, and do your best. You've prepared well for this test!