

Mathematics Test

General Directions to the Student

- This test contains two segments. You will be told when to begin each segment.
- This test has multiple-choice questions.
- Answer each multiple-choice question by filling in the circle next to the answer you think is best. The circle must be filled in completely for your answer to be scored.
- Look at the sample question that shows how to do this.

Sample Question: $20 - 8 =$

Ⓐ 8

Ⓑ 10

● 12

Ⓓ 16

- You **may not** use a calculator for Segment 1.
- You **may** use a calculator for Segment 2.
- When you finish a segment of the test, stop and check your answers. You may not work on a different segment of the test. You will be told when to begin the next segment.

**NOTICE: THESE TEST ITEMS ARE SECURE MATERIALS AND
MAY NOT BE COPIED OR DUPLICATED IN ANY WAY.**

**This reflects the information on the actual test.
The item sampler test book may be duplicated.**



Segment 1

Your teacher will tell you when to begin this segment.

You **MAY NOT** use a calculator for this segment.



1. What is another way to show 4,608?

- Ⓐ $46 + 8$
 - Ⓑ $4,000 + 60 + 8$
 - Ⓒ $4,000 + 600 + 8$
 - Ⓓ $4,000 + 600 + 80$
-

2. There are 23,650 people in a stadium.

The stadium can hold 1,000 more people.

How many people can the stadium hold?

- Ⓐ 22,650
- Ⓑ 23,750
- Ⓒ 24,650
- Ⓓ 33,650

3. What is 153,924 rounded to the nearest thousand?

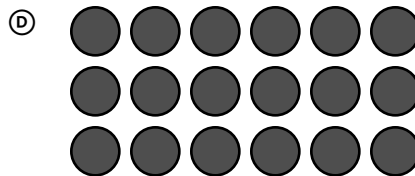
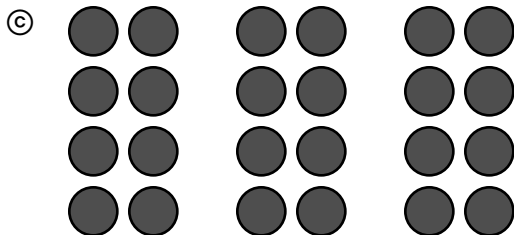
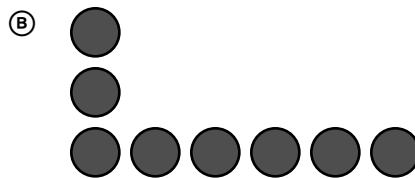
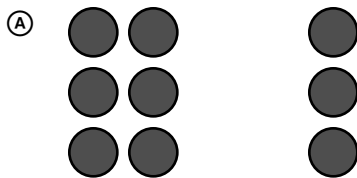
- Ⓐ 150,000
- Ⓑ 153,000
- Ⓒ 153,900
- Ⓓ 154,000

4. Subtract.

$$6,905 - 37$$

- Ⓐ 3,205
- Ⓑ 6,868
- Ⓒ 6,932
- Ⓓ 6,968

5. Which model shows 6×3 ?



6. Malik has 64 marbles.

He puts an equal number of marbles into each of 4 jars.

How many marbles are in each jar?

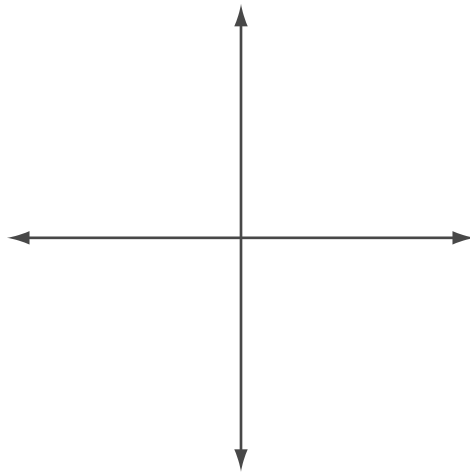
- (A) 14
- (B) 15
- (C) 16
- (D) 18

7. Multiply.

$$507 \times 6$$

- Ⓐ 342
- Ⓑ 3,002
- Ⓒ 3,042
- Ⓓ 3,102

8. Two lines are shown.



Which describes the relationship between the lines?

- Ⓐ Parallel
- Ⓑ Perpendicular
- Ⓒ Square
- Ⓓ Straight

This is the end of Segment 1.

Check your work, then
wait for directions from your teacher.



Segment 2

Your teacher will tell you when to begin this segment.

You **MAY** use a calculator for this segment.



9. Which number has a 5 in the ten thousands place?

- Ⓐ 104,352
- Ⓑ 365,971
- Ⓒ 582,607
- Ⓓ 951,480

10. Connie lists her scores from a video game.

14,087 13,345 14,613 14,301

Which list shows the scores listed from greatest to least?

- Ⓐ 14,613 13,345 14,301 14,087
- Ⓑ 14,613 14,301 14,087 13,345
- Ⓒ 14,087 14,613 14,301 13,345
- Ⓓ 13,345 14,087 14,301 14,613

- 11.** Jeff had 1,350 glass beads and 695 clay beads.
He sold 138 glass beads and 47 clay beads.
How many beads did Jeff have left?
- Ⓐ 470
 - Ⓑ 746
 - Ⓒ 1,860
 - Ⓓ 2,230
-

- 12.** Cory has 2 red crayons and 1 blue crayon.
What fraction of Cory's crayons is red?
- Ⓐ $\frac{1}{3}$
 - Ⓑ $\frac{1}{2}$
 - Ⓒ $\frac{2}{3}$
 - Ⓓ $\frac{3}{2}$

13. Gavin has 4 green apples and 4 red apples.
Tara has 4 green apples and 8 red apples.
Who has a greater fraction of green apples?

- Ⓐ Gavin, because $\frac{4}{8}$ is greater than $\frac{4}{12}$
- Ⓑ Tara, because $\frac{4}{12}$ is greater than $\frac{4}{8}$
- Ⓒ Tara, because 12 is greater than 8
- Ⓓ They both have the same fraction of green apples.

14. Ellen has a vase of flowers.

- $\frac{1}{8}$ are red.
- $\frac{1}{3}$ are blue.
- $\frac{1}{6}$ are purple.
- $\frac{1}{4}$ are yellow.

Which is the greatest fraction?

- Ⓐ $\frac{1}{8}$
- Ⓑ $\frac{1}{3}$
- Ⓒ $\frac{1}{6}$
- Ⓓ $\frac{1}{4}$

15. A table is shown.

Input	Output
2	12
4	24
8	48

What is the output number when the input number is 12?

- Ⓐ 2
- Ⓑ 60
- Ⓒ 72
- Ⓓ 96

16. Which story problem can be solved using the number sentence $2 \times n = 18$?

- Ⓐ Tom had 18 pencils. He gave n pencils away and had 2 left over. How many pencils did Tom give away?
- Ⓑ Alice bought n books and spent \$18. Each book cost \$2. How many books did Alice buy?
- Ⓒ Maya had n rocks and 2 baskets. She put 18 rocks in each basket. How many rocks did Maya have?
- Ⓓ Pedro saw 2 kinds of birds. He saw 18 robins and n crows. How many crows did Pedro see?

17. An equation is shown.

$$3 \times 7 = \underline{\quad} + 7$$

What number makes the number sentence true?

- Ⓐ 3
- Ⓑ 14
- Ⓒ 21
- Ⓓ 28

18. Which shape has the fewest angles?

- Ⓐ Hexagon
- Ⓑ Octagon
- Ⓒ Pentagon
- Ⓓ Trapezoid

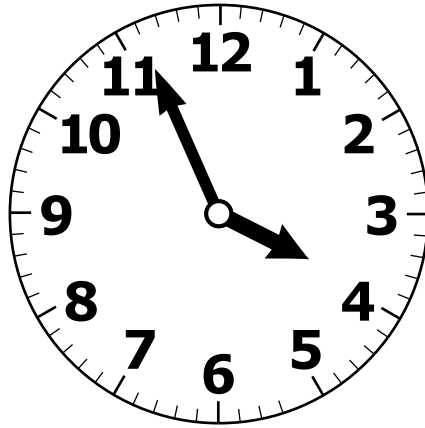
19. The perimeter of a rectangle is 16 inches.

Its length is 5 inches.

What is its width?

- Ⓐ 3 inches
- Ⓑ 6 inches
- Ⓒ 11 inches
- Ⓓ 21 inches

20. Mai Ka starts reading a book at the time shown on the clock.



She stops reading 1 hour and 12 minutes later.

What time does Mai Ka stop reading?

- Ⓐ 4:08
- Ⓑ 4:44
- Ⓒ 5:04
- Ⓓ 5:08

21. A movie is 2 hours and 28 minutes long.

How many minutes long is the movie?

- Ⓐ 88 minutes
- Ⓑ 120 minutes
- Ⓒ 148 minutes
- Ⓓ 228 minutes

22. Gina buys a snack for 59¢.

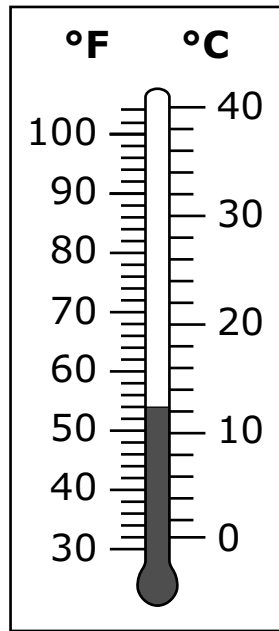
She pays with a \$1 bill.

She receives the fewest possible coins in change.

What change does Gina receive?

- Ⓐ 1 quarter, 1 dime, 1 nickel, and 1 penny
- Ⓑ 2 quarters and 1 penny
- Ⓒ 2 quarters, 1 nickel, and 4 pennies
- Ⓓ 4 dimes and 1 penny

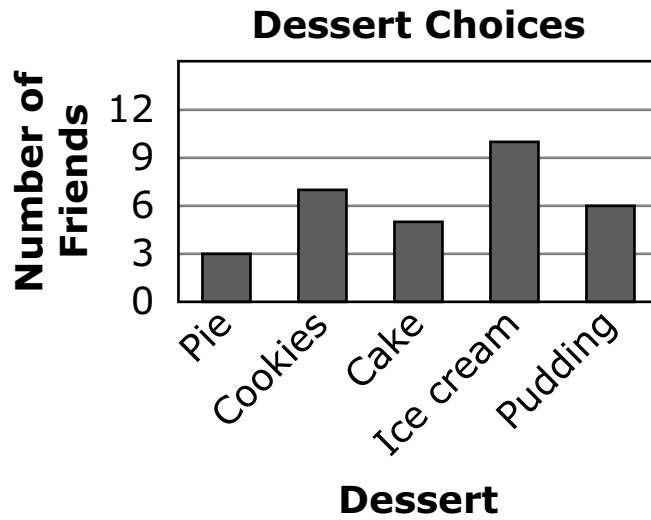
23. A thermometer is shown.



What temperature is shown on the thermometer?

- Ⓐ 11°C
- Ⓑ 12°F
- Ⓒ 54°C
- Ⓓ 54°F

24. Leon asked his friends to choose a favorite dessert.



How many more friends chose ice cream than pie?

- Ⓐ 2
- Ⓑ 5
- Ⓒ 7
- Ⓓ 10

This is the end of Segment 2.

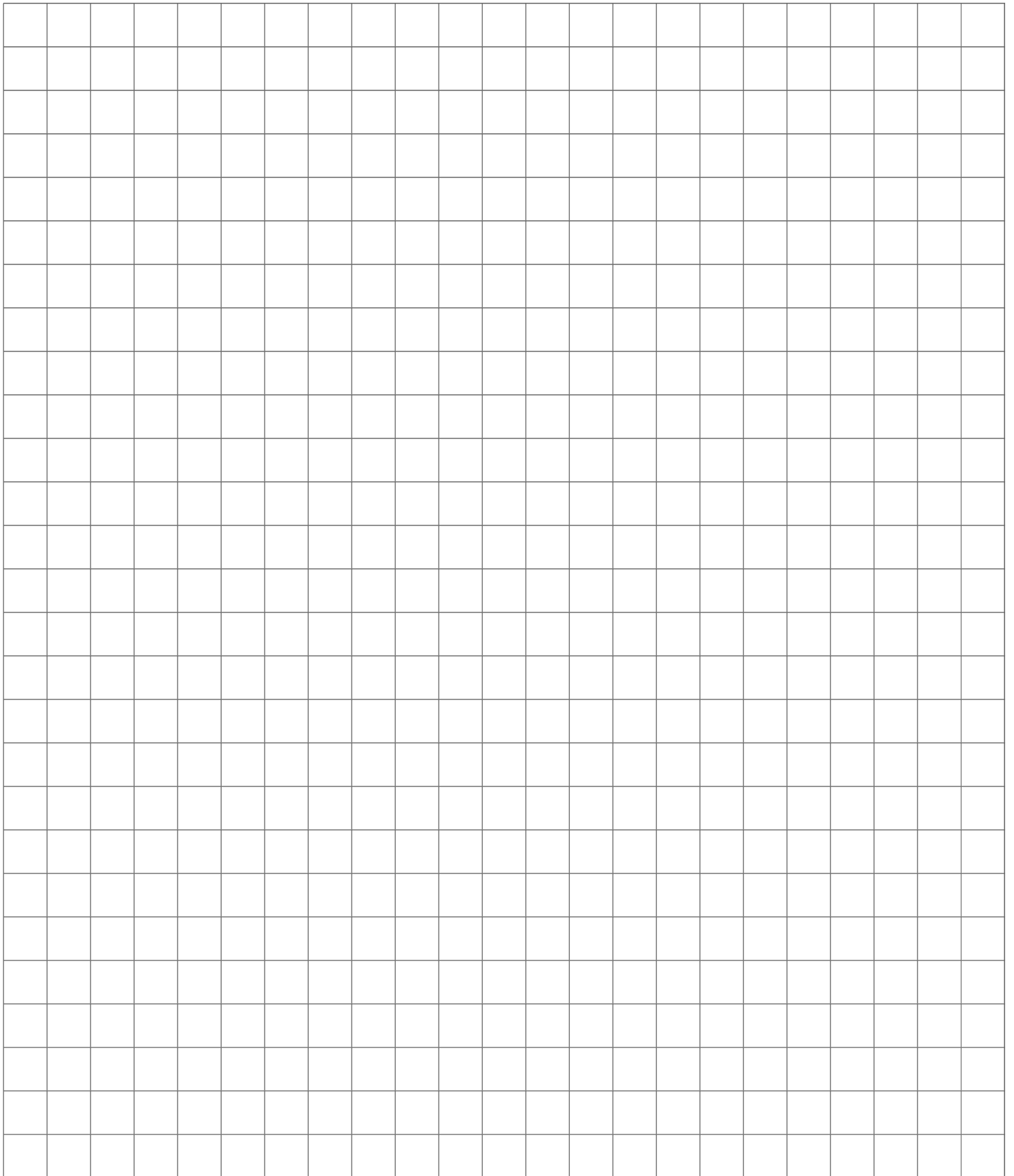
Check your work, then
wait for directions from your teacher.





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Grade 3 Teacher's Guide



MCA Item Sampler Teacher's Guide

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An Introduction to the MCA

The Minnesota Comprehensive Assessments are reading, mathematics and science tests that help schools and districts measure student progress toward the state's academic standards. In 2006, the reading and mathematics tests were aligned to the 2003 Minnesota Academic Standards and were named the Minnesota Comprehensive Assessment-Series II (MCA-II). The Science MCA-IIs became operational in 2008 and are aligned to the 2003 Minnesota Academic Standards. The grades 3–8 mathematics assessments will be operational in 2011 as the Minnesota Comprehensive Assessments-Series III (MCA-III) and are aligned to the 2007 Minnesota Academic Standards.

The Purpose of the MCA Item Samplers

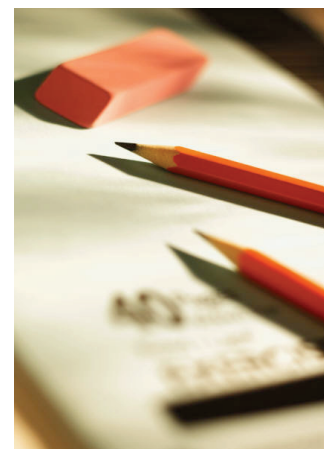
An item sampler is not a complete test. It contains a smaller number of the items that students will see on a full-length test in the spring. The MCA Item Samplers were developed to familiarize students and teachers with the format of the MCA and the kinds of items that will appear on them.

This MCA Item Sampler is not a real test. It should not be used to predict how well students will do on the tests. However, students may feel more comfortable with the tests if they have reviewed the Item Samplers prior to the test.

How the MCA Item Samplers Were Created

The Item Samplers mirror the format of the MCA. The student directions, segment layouts, and answer sheet each reflect the way the test will look in the spring, except that the Item Sampler is shorter than the actual test. As with all MCAs, the reading passages and the math and reading questions have been thoroughly reviewed by Minnesota teachers prior to testing. Minnesota students have answered these questions on previous tests.

The distribution of question types and their aligned content selected for the Item Sampler generally reflects a range of items from each strand in the Minnesota Academic Standards. Whenever possible, the Item Samplers have the following designs:



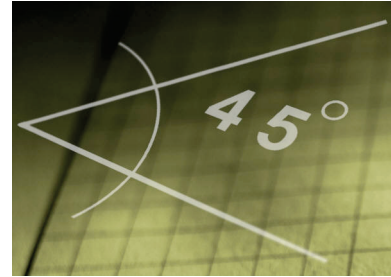
Grade 3 Teacher's Guide

Math:

- Two segments
 - Segment One does not allow a student to use a calculator.
 - The actual MCA has four segments
- Approximately twenty-four multiple-choice items

The Contents of This Teacher's Guide

The Answer Key identifies the answers and solutions to the questions. It also identifies the strand/sub-strand/benchmark from the Minnesota Academic Standards for the question.



State Standards & Test Specifications

The Item Samplers are primarily intended to familiarize teachers and students with the **format** of the MCA. The best preparation for the **content** of the MCA is done as a part of your curriculum planning. When doing that, reference the Minnesota Academic Standards and the test specifications for the MCA. For further questions about the MCA-IIs, email us at mde.testing@state.mn.us.

Grade 3 Teacher's Guide

MCA-III Item Sampler Answer Key Grade 3 Math

Item #	Correct Answer	Item Type	Strand	Standard	Benchmark
1	C	MC	1	1	01
2	C	MC	1	1	03
3	D	MC	1	1	04
4	B	MC	1	2	01
5	D	MC	1	2	03
6	C	MC	1	2	04
7	C	MC	1	2	05
8	B	MC	3	1	01
9	D	MC	1	1	02
10	B	MC	1	1	05
11	C	MC	1	2	02
12	C	MC	1	3	01
13	A	MC	1	3	02
14	B	MC	1	3	03
15	C	MC	2	1	01
16	B	MC	2	2	01
17	B	MC	2	2	02
18	D	MC	3	1	02
19	A	MC	3	2	02
20	D	MC	3	3	01
21	C	MC	3	3	02
22	A	MC	3	3	03
23	D	MC	3	3	04
24	C	MC	4	1	01

Grade 3 Teacher's Guide

Item # — The number of the question in the Item Sampler.

Correction Answer — Answers to multiple-choice questions are listed.

Item Type — Multiple Choice (MC)

Calculator Designation — CL indicated that a calculator can be used on this item, NC indicates a student cannot use a calculator.

Strand — In mathematics, the MCA-III measures four strands:

1. Number and Operation
2. Algebra
3. Geometry and Measurement
4. Data Analysis and Probability

Standard — Each strand has one or more standards

Benchmark — Each standard has one or more benchmarks. See the Academic Standards or test specification for further explanation of each benchmark.

Cognitive Level — The level of cognitive demand focuses on the type and level of thinking and reasoning required of the student on a particular item. MCA-III and MCA-Modified levels of cognitive complexity are based on Norman L. Webb's Depth of Knowledge levels. See the test specifications for further explanation.

- Level 1: Recall
- Level 2: Skills/Concept
- Level 3: Strategic Thinking

