



RELEASED ITEMS

**MATHEMATICS
GRADE 3**

Fall 2006

**MICHIGAN STATE BOARD OF EDUCATION
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PART 1

DIRECTIONS

This test has three parts. You may **NOT** use a calculator on the first part. You may use open space in this test booklet for scratch paper.

The items on this test are all multiple-choice. Multiple-choice items require you to choose the best answer from among three answer choices. Mark your answer in your test booklet by completely filling in the bubble next to the correct answer. Use only a No. 2 pencil to mark your answer in your test booklet. If you erase an answer, be sure to erase it completely.

Be careful not to make any marks in the bubbles next to the letters A, B, or C except for the one that goes with your answer. You may **NOT** use any other paper to do your work.

Sample Multiple-Choice Item:

Julia had \$5.00. She spent \$2.54. How much money did she have left?

- A \$7.54
- B \$3.54
- C \$2.46

For this sample item, the correct answer is **C**. Circle **C** is filled in on the sample item in your test booklet.

You will have at least 35 minutes to finish Part 1 of this test. You will be given additional time if necessary.

1. Once you have reached the word STOP in your test booklet, do **NOT** go on to the next page.
2. If you finish early, you may check your work in Part 1 of the test **ONLY**.
3. Do **NOT** look at items in other parts of the test.

If you do not understand any of these directions, please raise your hand.

1 How is 71 written in words?

- ⊖ A seven one
- ⊖ B seventy-one
- ⊖ C one hundred seventy-one

2 How is 932 written in words?

- ⊖ A nine hundred thirty-two
- ⊖ B ninety thirty-two
- ⊖ C ninety-three two

3 How is six hundred two written as a numeral?

- ⊖ A 602
- ⊖ B 620
- ⊖ C 622

4 Which list shows the numbers in order from *least* to *greatest*?

⊖ **A** 209, 191, 186

⊖ **B** 186, 191, 209

⊖ **C** 191, 186, 209

5 Which of the following is true?

⊖ **A** $882 > 876$

⊖ **B** $876 > 886$

⊖ **C** $882 > 886$

6 Which list shows the numbers in order from *least* to *greatest*?

⊖ **A** 99, 118, 129

⊖ **B** 99, 129, 118

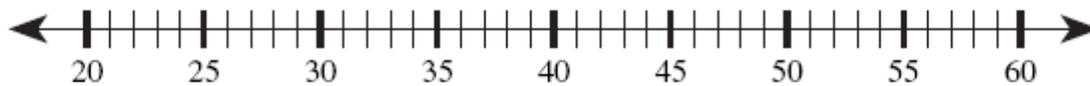
⊖ **C** 129, 118, 99

7 How far is 56 from 33 on the number line below?



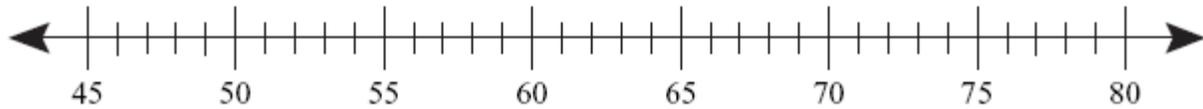
- Ⓐ 22
- Ⓑ 23
- Ⓒ 24

8 How far is 28 from 52?



- Ⓐ 20
- Ⓑ 24
- Ⓒ 30

- 9 How far is 49 from 78 on the number line below?

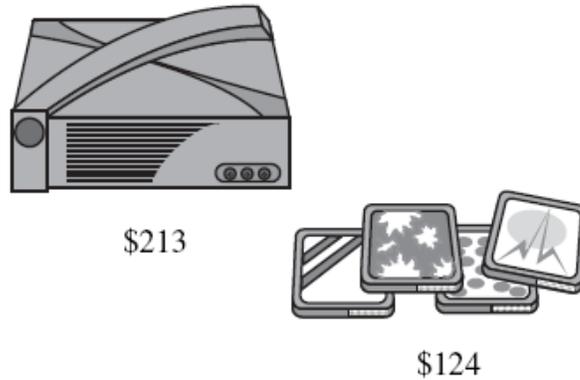


- Ⓐ 29
- Ⓑ 45
- Ⓒ 80
- 10 What is 112 plus 87?
- Ⓐ 25
- Ⓑ 199
- Ⓒ 982
- 11 There were 900 adult tickets printed for the play and 100 children's tickets printed for the play. How many tickets were printed in all?

- Ⓐ 901
- Ⓑ 910
- Ⓒ 1,000

- 12** Andy has driven 500 miles. He has 100 miles to go. How many miles is his trip in all?
- ⊖ **A** 400 miles
 - ⊖ **B** 510 miles
 - ⊖ **C** 600 miles
- 13** One farm has 221 cows, and another farm has 368 cows. Which is *closest* to the total number of cows?
- ⊖ **A** 500
 - ⊖ **B** 550
 - ⊖ **C** 600
- 14** There are 433 students in first grade and 321 students in second grade. Which number is *closest* to the total number of first and second grade students?
- ⊖ **A** 650
 - ⊖ **B** 750
 - ⊖ **C** 850

15 David paid \$213 for a video game system and \$124 for games to go with the system. How much did he pay in all, to the *nearest* hundred?



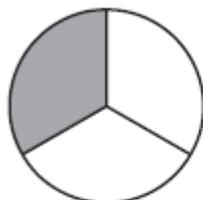
- ⊖ **A** \$300
- ⊖ **B** \$400
- ⊖ **C** \$500

16 Which of the following fraction strips appears to be $\frac{3}{4}$ shaded?

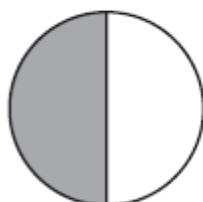
- ⊖ **A** 
- ⊖ **B** 
- ⊖ **C** 

17 Look at the circles below. Which circle appears to be $\frac{1}{2}$ shaded?

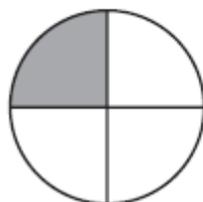
⊖ A



⊖ B



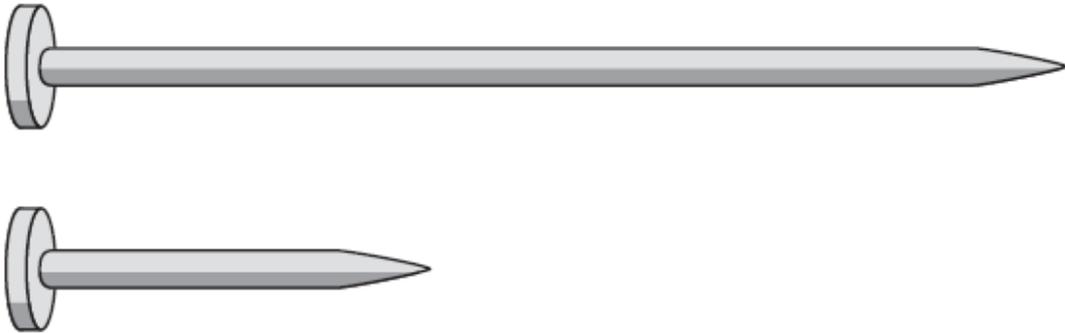
⊖ C



- 18 The figure below is cut into equal sections. Which fraction represents the part of the figure that is NOT shaded?



- Ⓐ $\frac{1}{3}$
- Ⓑ $\frac{2}{3}$
- Ⓒ $\frac{3}{3}$
- 19 The top nail is 5 inches long, and the bottom nail is 2 inches long.



How much *longer* is the top nail?

- Ⓐ 2 inches
- Ⓑ 3 inches
- Ⓒ 7 inches

20 What is the difference in height between these two glasses?



- A** 1 inch
- B** 3 inches
- C** 15 inches

- 21** A piece of string was cut, making pieces 10 inches long and 7 inches long.



10 inches



7 inches

How long was the string before it was cut?

- A** 3 inches
 - B** 17 inches
 - C** 27 inches
- 22** Walter paid \$0.55 for a candy bar and \$0.75 for a cookie. How much more did Walter pay for the cookie than the candy bar?
- A** \$0.20
 - B** \$0.30
 - C** \$1.30

23 Alex had 119 pennies. If his father gave him 5 more pennies, how much money did he have then?

- ⊖ **A** \$1.14
- ⊖ **B** \$1.20
- ⊖ **C** \$1.24

24 Elsie had two dimes and a nickel. She gave one dime to her sister. How much money did Elsie have then?



- ⊖ **A** \$0.15
- ⊖ **B** \$0.20
- ⊖ **C** \$0.35

PART 2

DIRECTIONS

You will now begin Part 2 of this test. You may use a calculator on this part of the test, and you may use open space in this test booklet for scratch paper.

You will have at least 50 minutes to finish Part 2 of this test. You will be given additional time if necessary.

Be careful not to make any marks in the bubbles next to the letters A, B, or C except for the one that goes with your answer. You may **NOT** use any other paper to do your work.

If you finish early, you may check your work for Part 2 **ONLY**.

Do **NOT** look at items in other parts of this test.

25 The second grade class read 76 books. The first grade class read 20 *fewer* books. How many books did the first grade class read?

⊖ **A** 20

⊖ **B** 56

⊖ **C** 96

26 Tom sold 40 mugs on Thursday. On Friday, he sold 10 more mugs than on Thursday. How many total mugs did Tom sell on Friday?

⊖ **A** 10

⊖ **B** 30

⊖ **C** 50

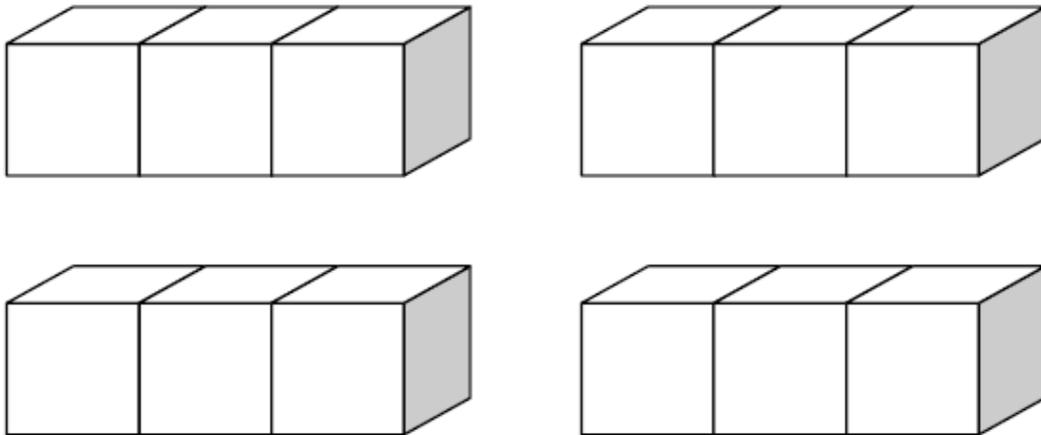
27 Tammy worked 40 hours last week and 36 hours this week. How many total hours did Tammy work?

⊖ **A** 66

⊖ **B** 70

⊖ **C** 76

28 What is one way to tell how many blocks are below?

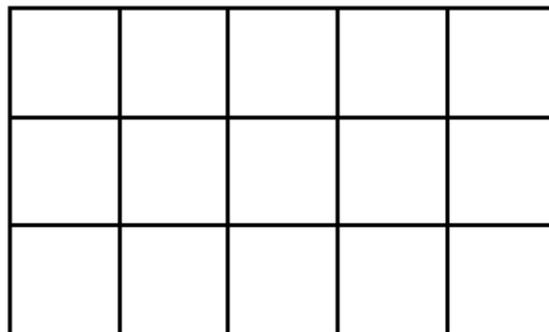


A 4×3

B 4×2

C 3×3

29 What is one way to tell how many squares there are below?

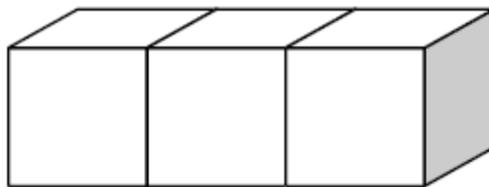
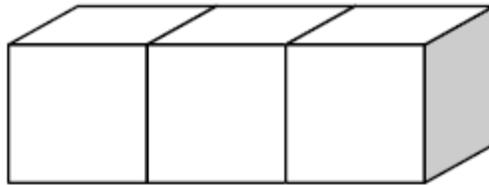


A $3 + 5$

B 2×4

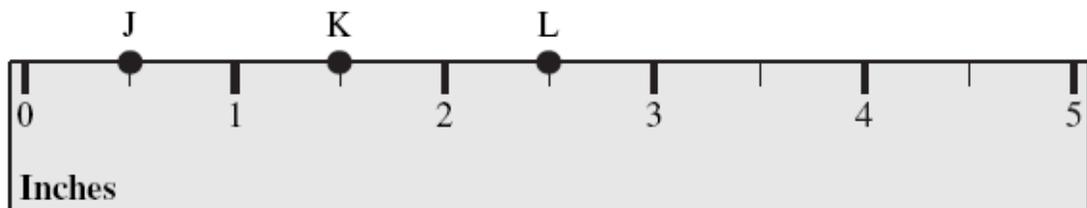
C 3×5

30 What is one way to tell how many blocks are below?



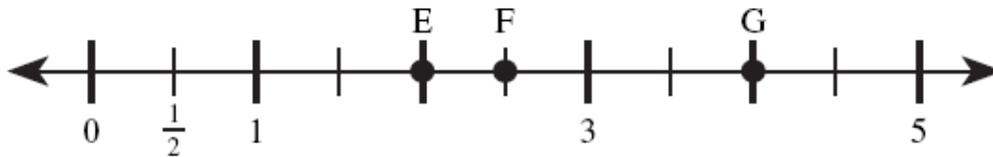
- ⊖ **A** 2×1
- ⊖ **B** 2×2
- ⊖ **C** 2×3

31 Which letter best represents $\frac{1}{2}$ inch on this ruler?



- ⊖ **A** J
- ⊖ **B** K
- ⊖ **C** L

32 Which letter appears to mark $2\frac{1}{2}$ on this number line?



- Ⓐ E
- Ⓑ F
- Ⓒ G

33 Which number does R appear to show on this number line?



- Ⓐ $1\frac{1}{2}$
- Ⓑ $2\frac{1}{2}$
- Ⓒ $3\frac{1}{2}$

34 What time appears to be shown on this clock?



- Ⓐ eight minutes to 7
- Ⓑ twenty minutes to 7
- Ⓒ twenty minutes to 6

35 What time appears to be shown on this clock?



- Ⓐ three past three
- Ⓑ three-fifteen
- Ⓒ three-thirty

36 Which best represents the time shown on the clock below?



- A** 8:20 a.m.
- B** 8:40 a.m.
- C** 9:20 a.m.

37 What is another way to write six dollars and seventeen cents?

- A** \$6.17
- B** \$6.70
- C** \$617

38 Which represents the same value as 95¢?

- A** \$9.50
- B** \$0.95
- C** \$0.95¢

39 What is another way of writing seven dollars and four cents?

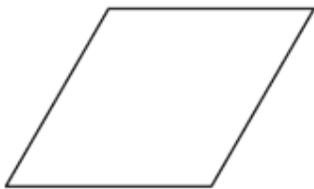
⊖ A \$7.04

⊖ B \$7.40

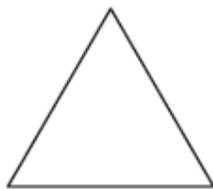
⊖ C \$7.44

40 Which of these shapes has the same number of sides as a rectangle?

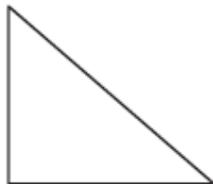
⊖ A



⊖ B



⊖ C



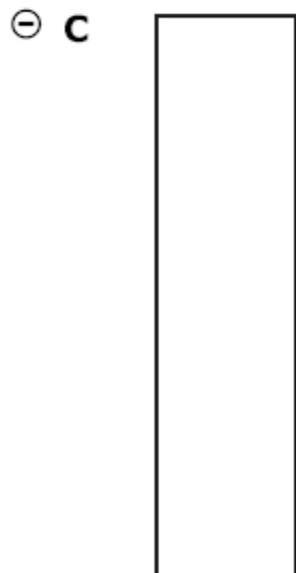
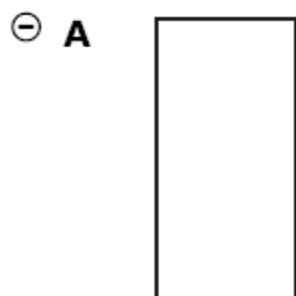
41 Which of these shapes has no corners?

- A** triangle
- B** circle
- C** rectangle

42 Look at this shape.



Which shape below is *closest* in size?



PART 3

DIRECTIONS

You will now begin Part 3 of this test. You may use a calculator on this part of the test, and you may use open space in this test booklet for scratch paper.

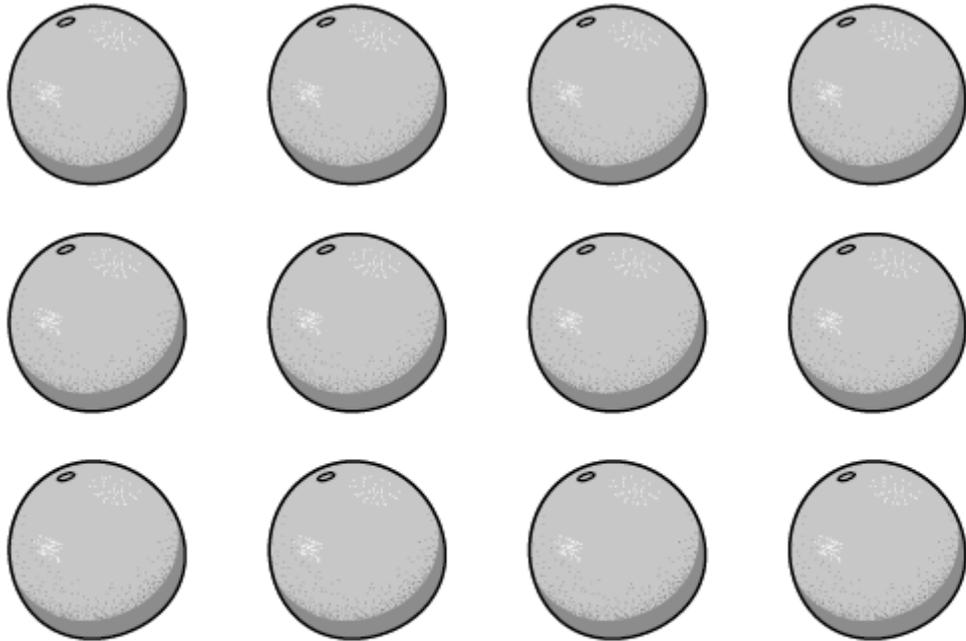
You will have at least 50 minutes to finish Part 3 of this test. You will be given additional time if necessary.

Be careful not to make any marks in the bubbles next to the letters A, B, or C except for the one that goes with your answer. You may **NOT** use any other paper to do your work.

If you finish early, you may check your work for Part 3 **ONLY**.

Do **NOT** look at items in other parts of this test.

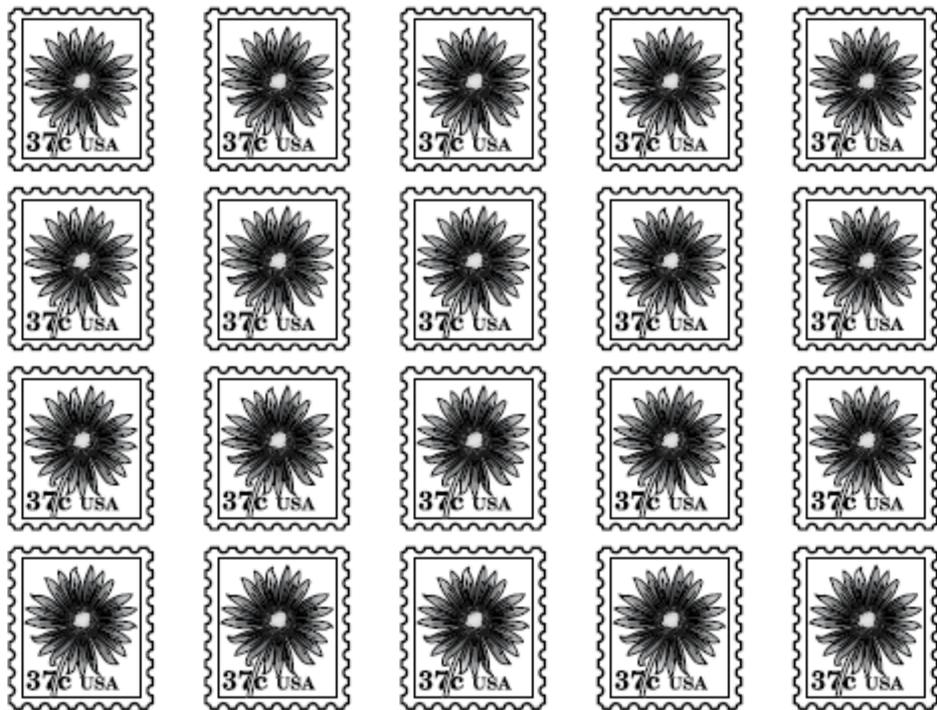
43 Look at the balls below.



What is one way to find the total number of balls?

- ⊖ **A** 3×4
- ⊖ **B** 3×3
- ⊖ **C** 4×4

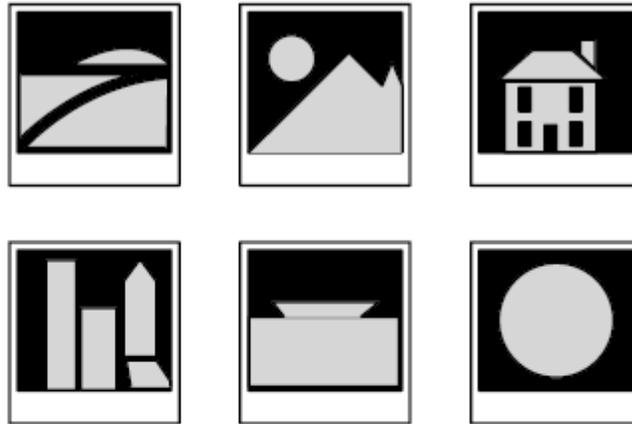
44 Tony has 20 stamps.



What is one way to find the total number of stamps?

- Ⓐ $5 + 5 + 5 + 5 + 5$
- Ⓑ $5 + 5 + 5 + 5$
- Ⓒ $4 + 4 + 4 + 4$

45 Aaron has these pictures of the class field trip.



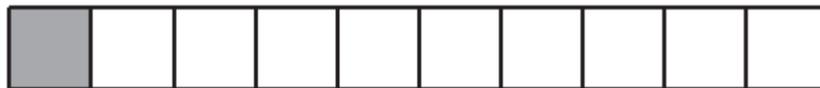
What is one way to find the total number of pictures?

- ⊖ **A** 2×4
- ⊖ **B** 2×3
- ⊖ **C** 2×2

46 Which model appears to be exactly $\frac{1}{6}$ shaded?



47 Look at the model below.



What part of the model appears to be shaded?

⊖ **A** $\frac{1}{12}$

⊖ **B** $\frac{1}{10}$

⊖ **C** $\frac{1}{9}$

48 What fraction of this model appears to be shaded?

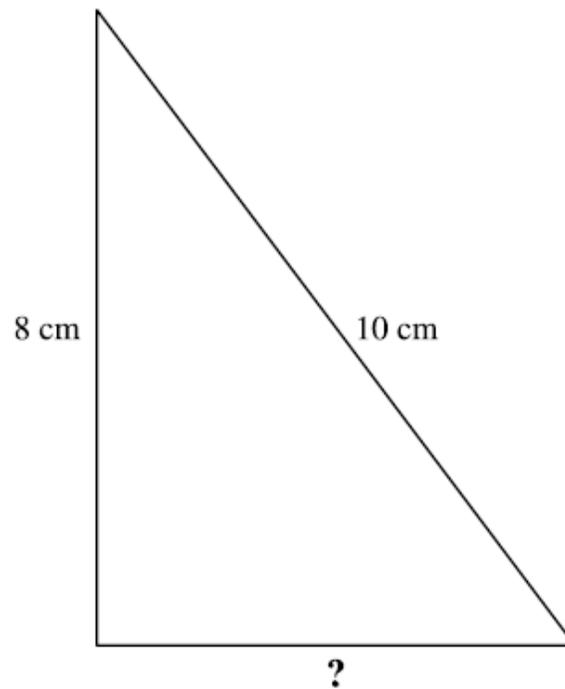


Ⓐ $\frac{1}{4}$

Ⓑ $\frac{1}{3}$

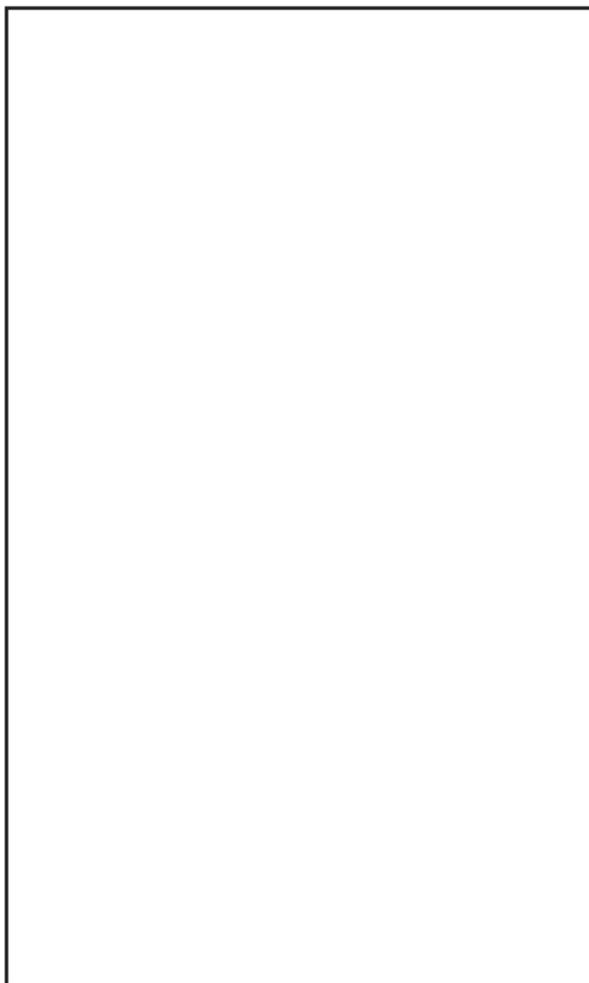
Ⓒ $\frac{3}{4}$

- 49 Use your ruler to measure the length of the side with the question mark. Which is closest to the measurement?



- Ⓐ 5 cm
- Ⓑ 6 cm
- Ⓒ 7 cm

- 50 Use your ruler to measure the width of the top of this shape. Which is closest to the width of the top of the shape in inches?



- Ⓐ 2 inches
- Ⓑ 3 inches
- Ⓒ 4 inches

- 51 Use your ruler to measure the stick. Which is closest to the length of the stick in centimeters?



- Ⓐ 8 cm
- Ⓑ 10 cm
- Ⓒ 12 cm
- 52 It is 3:15 p.m. and Adam has a violin lesson in half an hour. At what time does Adam have his violin lesson?



- Ⓐ 2:45 p.m.
- Ⓑ 3:30 p.m.
- Ⓒ 3:45 p.m.

53 What time will it be 15 minutes after 2:10 a.m.?



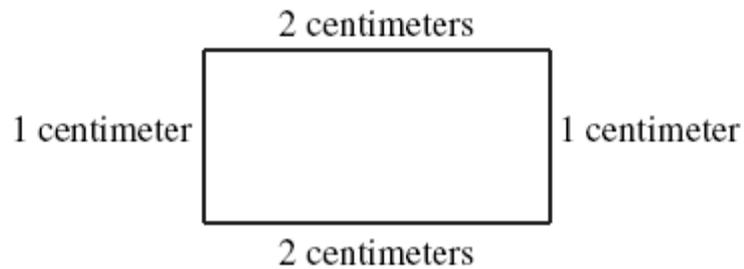
- Ⓐ 2:15 a.m.
- Ⓑ 2:25 a.m.
- Ⓒ 5:10 p.m.

54 It is now 11:25 a.m. Doug has a spelling test in 20 minutes. When is Doug's spelling test?



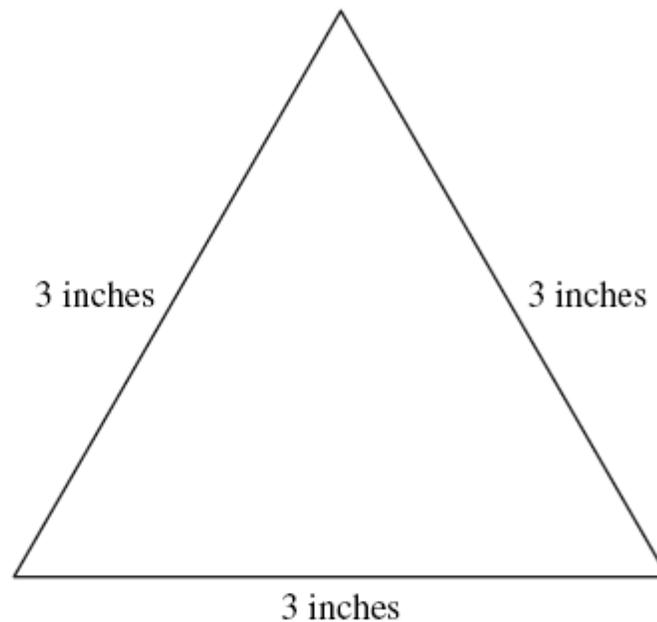
- Ⓐ 11:20 p.m.
- Ⓑ 11:45 a.m.
- Ⓒ 12:20 a.m.

55 What is the perimeter of this shape?



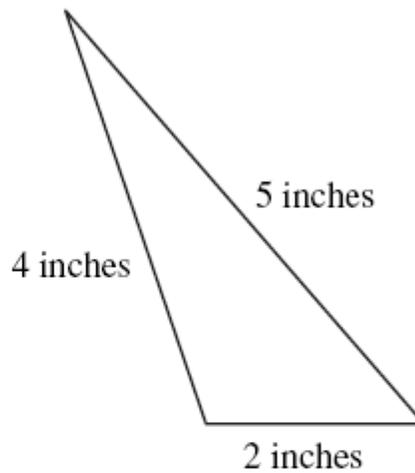
- Ⓐ 2 centimeters
- Ⓑ 3 centimeters
- Ⓒ 6 centimeters

56 What is the distance around this shape?



- Ⓐ 3 inches
- Ⓑ 6 inches
- Ⓒ 9 inches

57 What is the distance around this shape?



- Ⓐ 10 inches
- Ⓑ 11 inches
- Ⓒ 20 inches

58 How many more sides does a square have than a triangle?

- Ⓐ 1
- Ⓑ 3
- Ⓒ 4

59 Exactly how many corners does a rectangle have?

Ⓐ 2

Ⓑ 3

Ⓒ 4

60 Exactly how many sides does a triangle have?

Ⓐ 2

Ⓑ 3

Ⓒ 4

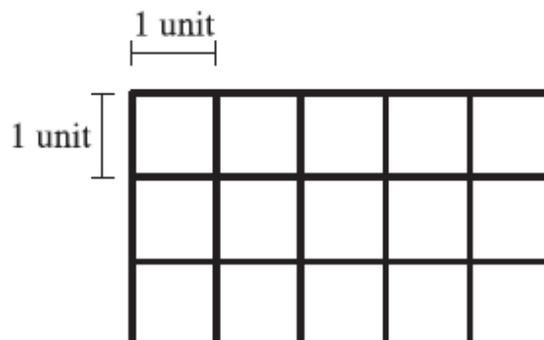
61 Which numeral has a straight side?

Ⓐ 6

Ⓑ 4

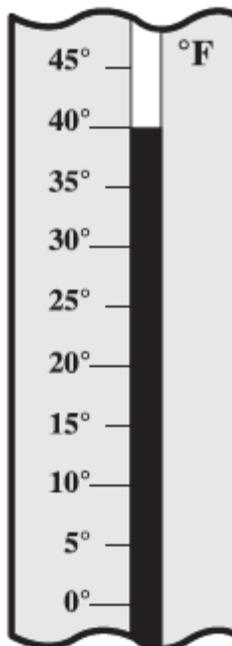
Ⓒ 8

- 62 Which number sentence can be used to find the area of this figure in square units?



- ⊖ **A** $3 \times 4 = 12$
- ⊖ **B** $3 \times 5 = 15$
- ⊖ **C** $3 \times 6 = 18$

63 What temperature is shown on this thermometer?



- A 35°F
- B 40°F
- C 45°F

64 Which pair of numbers equals 100?

- ⊖ **A** 54 + 46
- ⊖ **B** 37 + 73
- ⊖ **C** 61 + 29

65 Sue was skip counting. What number comes next?

300, 400, 500, ____

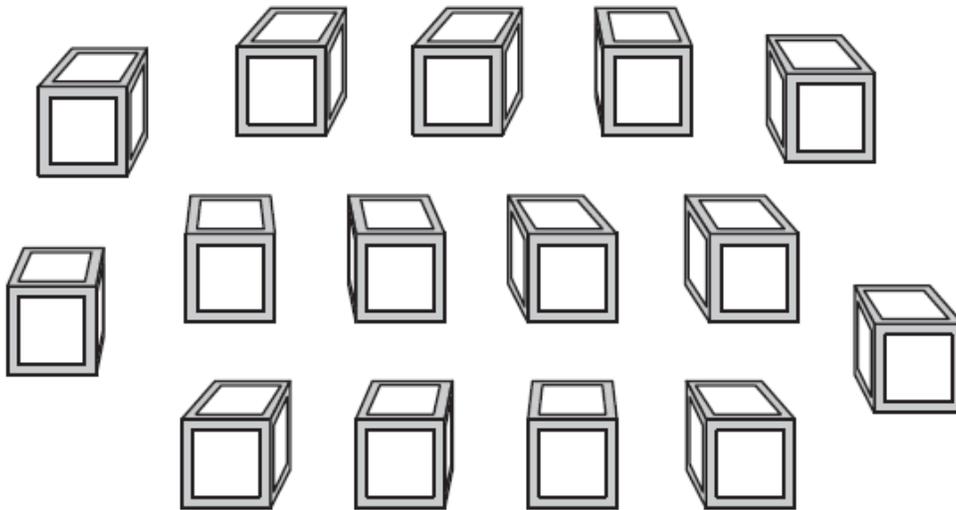
- ⊖ **A** 200
- ⊖ **B** 600
- ⊖ **C** 700

66 What number belongs in the box to make this number sentence true?

$$32 - \square = 27$$

- ⊖ **A** 5
- ⊖ **B** 6
- ⊖ **C** 59

67 Faith had 15 blocks. She put the blocks in piles of 5 blocks each. How many piles of blocks did she have?



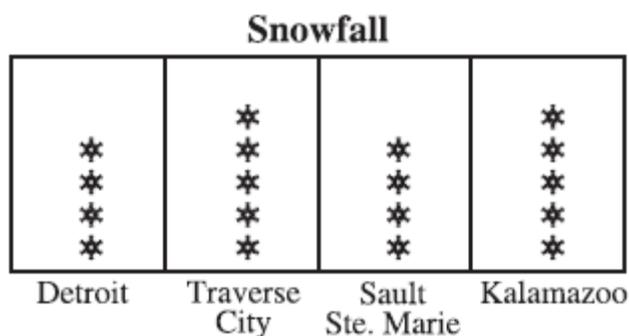
- ⊖ A 3
- ⊖ B 5
- ⊖ C 10

68 The snowfall for four cities last week is shown below.

City	Snowfall
Detroit	8 inches
Traverse City	10 inches
Sault Ste. Marie	6 inches
Kalamazoo	12 inches

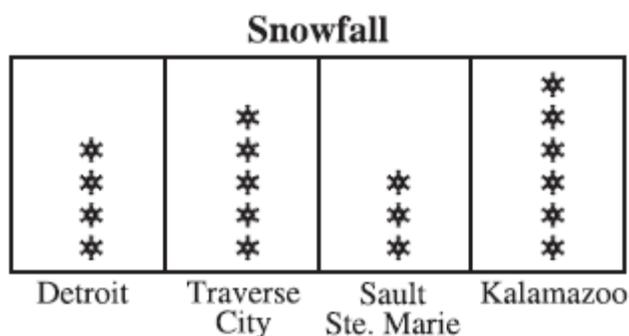
Which graph correctly shows the snowfall for these four cities?

⊖ A



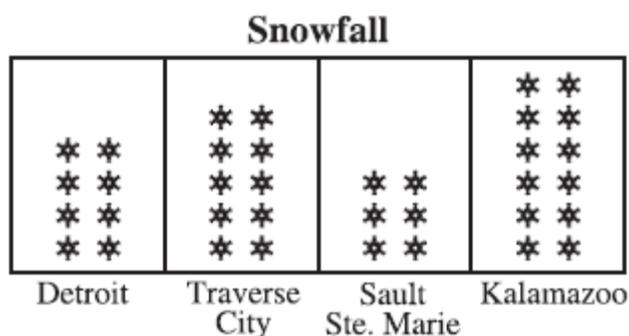
Each * means 2 inches of snow.

⊖ B



Each * means 2 inches of snow.

⊖ C



Each * means 2 inches of snow.

69 Sherry conducted a survey to find the ages of the girls on the soccer teams in her league. She made tables to show the results of her survey.

Age	Number of Players
8	2
9	3
10	6

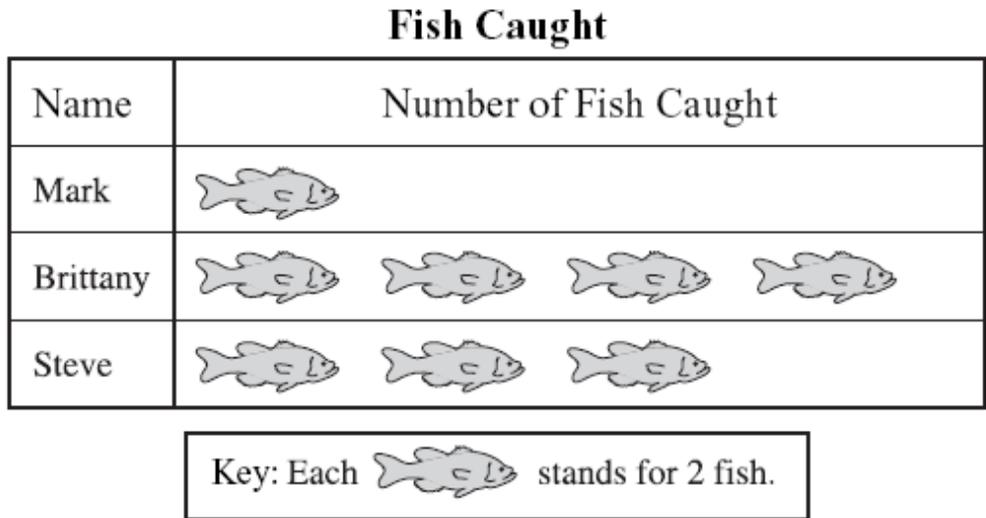
Age	Number of Players
8	1
9	6
10	4

Age	Number of Players
8	3
9	6
10	2

If Sherry made a graph to show the number of players for each age, and each  means 3 players, which of the following would represent the number of players who are age 9?

- ⊖ A 
- ⊖ B 
- ⊖ C 

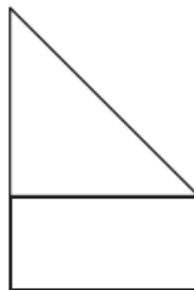
70 This pictograph shows the number of fish caught by three children.



How many more fish did Steve catch than Mark?

- Ⓐ 2
- Ⓑ 4
- Ⓒ 6

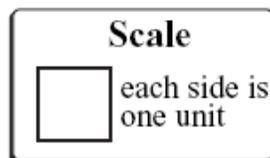
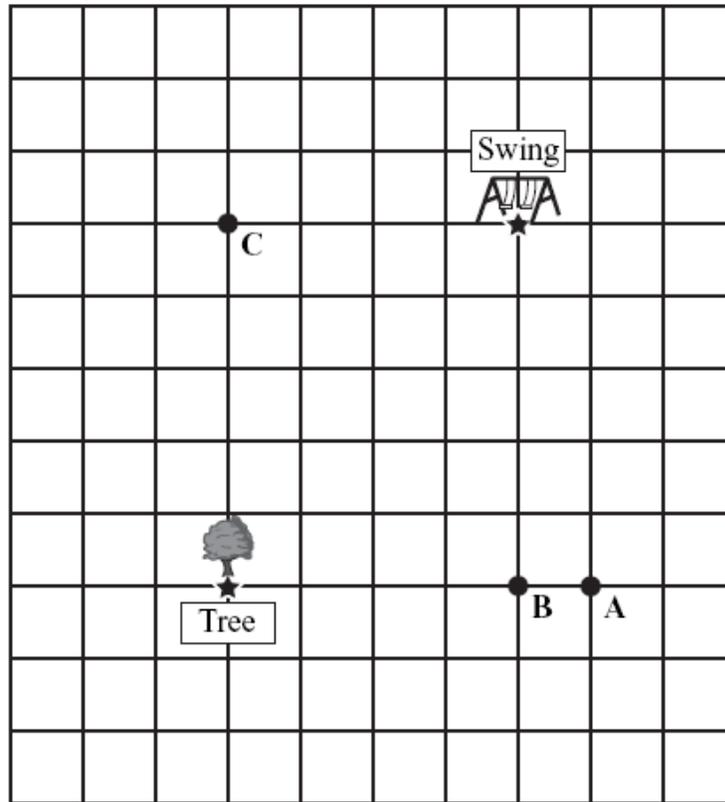
71 Look at the figure below.



Which of the following shapes can be used to make this figure without overlapping?

- Ⓐ one square and one triangle
- Ⓑ one rectangle and one triangle
- Ⓒ two rectangles

72 Some children want to hide some treasure 5 units from the tree and 4 units from the swing. At which labeled location can the children hide the treasure?



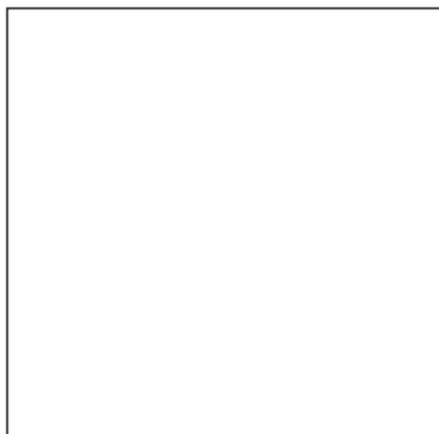
- Ⓐ location A
- Ⓑ location B
- Ⓒ location C

73 Look at the rectangle.



Which of the following shapes is the *same* rectangle?

⊖ **A**



⊖ **B**



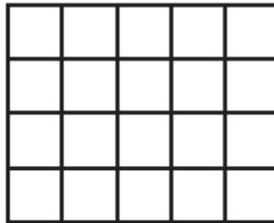
⊖ **C**



74 How much is $\$6.18 - \4 ?

- Ⓐ \$2.18
- Ⓑ \$5.78
- Ⓒ \$6.14

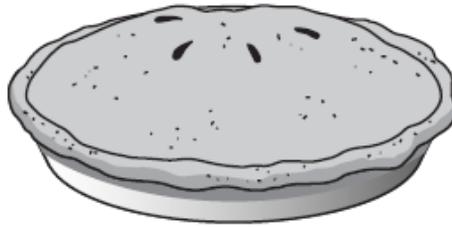
75 What is the area of this rectangle in square units?



= 1 square unit

- Ⓐ 9
- Ⓑ 18
- Ⓒ 20

- 76 A pie needs to be cut into equal-sized pieces. Which number of pieces will make the *largest* size pieces?



- ⊖ A 2
- ⊖ B 4
- ⊖ C 6
- 77 Which is equal to $\frac{12}{12}$?
- ⊖ A 1
- ⊖ B 2
- ⊖ C 6
- 78 Which division fact is another way of writing $3 \times 2 = 6$?
- ⊖ A $9 \div 3 = 3$
- ⊖ B $6 \div 2 = 3$
- ⊖ C $3 \div 3 = 1$

Scoring Key: Part 1

Item No.	Correct Answer	GLCE	Type	Description
1	B	N.ME.02.02	Core-NC	Read and write numbers to 1000
2	A	N.ME.02.02	Core-NC	Read and write numbers to 1000
3	A	N.ME.02.02	Core-NC	Read and write numbers to 1000
4	B	N.ME.02.03	Core-NC	Compare and order numbers to 1000
5	A	N.ME.02.03	Core-NC	Compare and order numbers to 1000
6	A	N.ME.02.03	Core-NC	Compare and order numbers to 1000
7	B	N.MR.02.07	Core-NC	Find distance between numbers on a number line
8	B	N.MR.02.07	Core-NC	Find distance between numbers on a number line
9	A	N.MR.02.07	Core-NC	Find distance between numbers on a number line
10	B	N.FL.02.10	Core-NC	Add fluently two numbers through 99
11	C	N.FL.02.10	Core-NC	Add fluently two numbers through 99
12	C	N.FL.02.10	Core-NC	Add fluently two numbers through 99
13	C	N.FL.02.11	Core-NC	Estimate sum of two numbers with three digits
14	B	N.FL.02.11	Core-NC	Estimate sum of two numbers with three digits
15	A	N.FL.02.11	Core-NC	Estimate sum of two numbers with three digits
16	B	N.ME.02.19	Core-NC	Recognize, name and write halves, thirds and fourths
17	B	N.ME.02.19	Core-NC	Recognize, name and write halves, thirds and fourths
18	A	N.ME.02.19	Core-NC	Recognize, name and write halves, thirds and fourths
19	B	M.PS.02.02	Core-NC	Compare, add, subtract lengths
20	B	M.PS.02.02	Core-NC	Compare, add, subtract lengths
21	B	M.PS.02.02	Core-NC	Compare, add, subtract lengths
22	A	M.PS.02.10	Core-NC	Solve simple word problems in length & money
23	C	M.PS.02.10	Core-NC	Solve simple word problems in length & money
24	A	M.PS.02.10	Core-NC	Solve simple word problems in length & money

NC=Non Calculator

Scoring Key: Part 2

Item No.	Correct Answer	GLCE	Type	Description
25	B	N.MR.02.09	Core	Solve story problems with objects & pictures
26	C	N.MR.02.09	Core	Solve story problems with objects & pictures
27	C	N.MR.02.09	Core	Solve story problems with objects & pictures
28	A	N.MR.02.14	Core	Represent x using area and array models
29	C	N.MR.02.14	Core	Represent x using area and array models
30	C	N.MR.02.14	Core	Represent x using area and array models
31	A	N.ME.02.20	Core	Place 0 and halves on number line; relate to a ruler
32	B	N.ME.02.20	Core	Place 0 and halves on number line; relate to a ruler
33	A	N.ME.02.20	Core	Place 0 and halves on number line; relate to a ruler
34	B	M.UN.02.05	Core	Tell time using A.M. and P.M.
35	B	M.UN.02.05	Core	Tell time using A.M. and P.M.
36	A	M.UN.02.05	Core	Tell time using A.M. and P.M.
37	A	M.UN.02.07	Core	Read & write money using decimal notations
38	B	M.UN.02.07	Core	Read & write money using decimal notations
39	A	M.UN.02.07	Core	Read & write money using decimal notations
40	A	G.SR.02.05	Core	Classify familiar plane and solid objects
41	B	G.SR.02.05	Core	Classify familiar plane and solid objects
42	A	G.SR.02.05	Core	Classify familiar plane and solid objects

Scoring Key: Part 3

Item No.	Correct Answer	GLCE	Type	Description
43	A	N.MR.02.13	Core	Recognize x as total number in a set of equal groups
44	B	N.MR.02.13	Core	Recognize x as total number in a set of equal groups
45	B	N.MR.02.13	Core	Recognize x as total number in a set of equal groups
46	C	N.ME.02.18	Core	Use common unit fractions
47	B	N.ME.02.18	Core	Use common unit fractions
48	A	N.ME.02.18	Core	Use common unit fractions
49	B	M.UN.02.01	Core	Measure lengths to nearest whole unit
50	B	M.UN.02.01	Core	Measure lengths to nearest whole unit
51	C	M.UN.02.01	Core	Measure lengths to nearest whole unit
52	C	M.UN.02.06	Core	Use the concept of duration of time
53	B	M.UN.02.06	Core	Use the concept of duration of time
54	B	M.UN.02.06	Core	Use the concept of duration of time
55	C	M.TE.02.11	Core	Determine perimeters of rectangles & triangles
56	C	M.TE.02.11	Core	Determine perimeters of rectangles & triangles
57	B	M.TE.02.11	Core	Determine perimeters of rectangles & triangles
58	A	G.GS.02.01	Core	Identify, describe, compare 2-D & 3-D shapes
59	C	G.GS.02.01	Core	Identify, describe, compare 2-D & 3-D shapes
60	B	G.GS.02.01	Core	Identify, describe, compare 2-D & 3-D shapes
61	B	G.GS.02.04	Extended	Know curved/straight lines, curved/flat surfaces
62	B	M.UN.02.03	Extended	Measure area using non-standard units
63	B	M.UN.02.09	Extended	Read temperature in degrees Fahrenheit
64	A	N.FL.02.06	Extended-NC	Decompose 100 into addition pairs, e.g., $99 + 1$
65	B	N.ME.02.01	Extended-NC	Count to 1000 by 1s, 10s, and 100s
66	A	N.MR.02.08	Extended-NC	Solve problem such as $42 + \underline{\quad} = 57$

Scoring Key: Part 3 (continued)

Item No.	Correct Answer	GLCE	Type	Description
67	A	N.MR.02.16	Extended	Given situation with groups of equal size, represent
68	B	D.RE.02.01	Future	Make pictographs using a scale representation
69	B	D.RE.02.02	Future	Read, interpret pictographs with scales of 2 or 3
70	B	D.RE.02.03	Future	Solve problems using info in pictographs
71	B	G.GS.02.02	Future	Putting together, taking apart 2-D & 3-D shapes
72	C	G.LO.02.07	Future	Find, name points using simple coordinate systems
73	B	G.TR.02.06	Future	Recognize transformed shapes
74	A	M.PS.02.08	Future	Add and subtract money in mixed units
75	C	M.TE.02.04	Future	Find the area of a rectangle using whole units
76	A	N.ME.02.21	Future	Knows denominator, fraction value relationship
77	A	N.ME.02.22	Future	Knows fraction equivalences of one
78	B	N.MR.02.15	Future	Understand relationship of multiplication & division