



RELEASED ITEMS

**MATHEMATICS
GRADE 3**

Fall 2008

**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 Read and write numbers to 1000

- A** correct
- B** place value error
- C** place value error

2 What is the place value of the digit 3 in the number 382?

- A** 1
- B** 10
- C** 100

3 Compare and order numbers to 1000

- A** greater number less than smaller number
- B** greater number equals smaller number
- C** correct

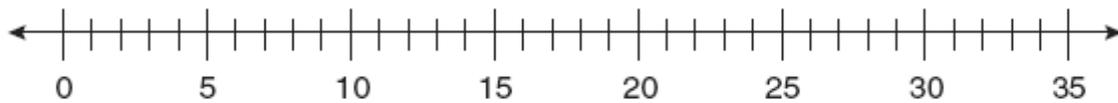
4 Which of the following lists the numbers in order from *least* to *greatest*?

- A 1,000, 900, 800
- B 700, 800, 900
- C 300, 500, 400

5 Find distance between numbers on a number line

- A correct
- B solution plus one
- C solution plus two

6 What is the distance on a number line from 16 to 31?



- A 14
- B 15
- C 25

7 Solve story problems with objects & pictures

- A subtracted instead of added
- B did not “carry the one” to tens place
- C correct

8 Lucy had 32 pencils. She gave away 25. Which number sentence can be used to determine the number of pencils Lucy had left?

- A $32 - 25 = ?$
- B $32 + 25 = ?$
- C $32 - 7 = ?$

9 Add fluently two numbers through 99

- A subtracted instead of added
- B did not “carry the one” to tens place
- C correct

10 Subtract $70 - 47$

- A** 23
- B** 33
- C** 37

11 Estimate sum of two numbers with three digits

- A** subtracted instead of added
- B** underestimate
- C** correct

12 Which of the following is *closest* to $287 + 115$?

- A** 600
- B** 500
- C** 400

13 Recognize x as total number in a set of equal groups

- A** addition
- B** correct
- C** division

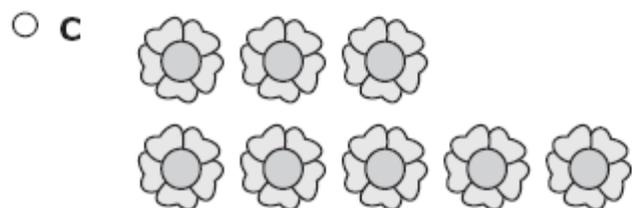
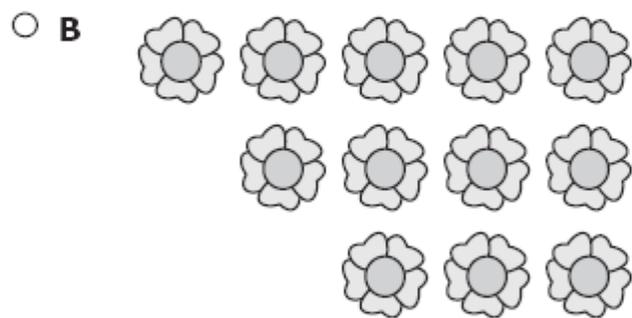
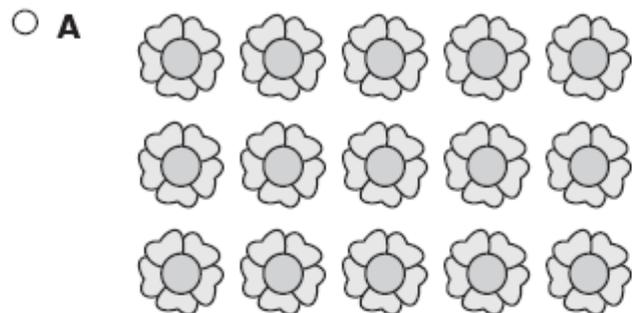
14 Which number sentence is true?

- A** $2 + 2 + 2 + 2 = 2 \times 2$
- B** $2 + 2 + 2 + 2 = 4 + 2$
- C** $2 + 2 + 2 + 2 = 4 \times 2$

15 Represent x using area and array models

- A** correct
- B** addition model
- C** incorrect multiplication model

16 Which of the following represents 3×5 ?



17 Use common unit fractions

- A model with unequal areas
- B model with equal but incorrect areas
- C correct

18 What fractional part of the shape below is shaded?

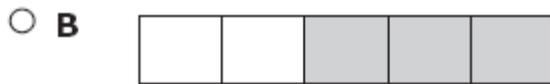


- A $\frac{1}{6}$
- B $\frac{1}{5}$
- C $\frac{5}{6}$

19 Recognize, name and write halves, thirds and fourths

- A model with unequal areas
- B correct
- C model with unequal areas

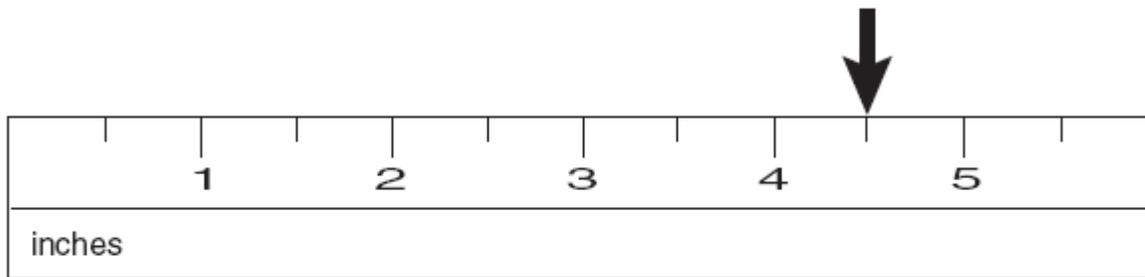
20 Which shape appears to be $\frac{2}{3}$ shaded?



21 Place 0 and halves on number line; relate to a ruler

- A did not include whole number
- B correct
- C counted halves as ones

22 To what number does the arrow appear to be pointing?



- A $5\frac{1}{2}$
- B $4\frac{1}{2}$
- C $3\frac{1}{2}$

23 Corey is counting by 10s to make this pattern. What is the next number in the pattern?

2, 12, 22, 32, ____

- A 33
- B 34
- C 42

24 What number should go into the box to make this number sentence true?

$$36 + \square = 50$$

- A 14
- B 24
- C 86

25 Mr. James had 25 pieces of candy. He used all the candy to make 5 equal shares for his children. What was the total number of pieces of candy in each share?

- A** 5
- B** 20
- C** 30

PART 2

DIRECTIONS

You will now begin Part 2 of this test. You may **NOT** use a calculator on this part of the test. You may use open space in this test booklet for scratch paper.

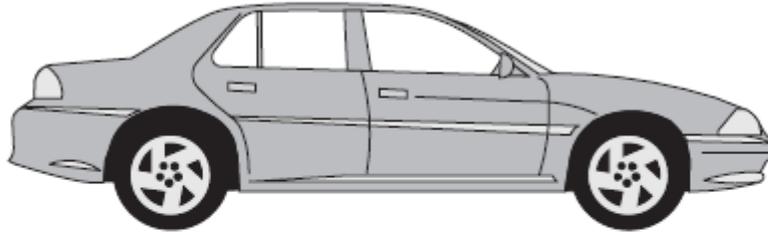
You will have at least 40 minutes to finish Part 2 of this test. You will be given additional time if necessary.

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 Part 1.

- 26 Which measurement is closest to the length of the car in the picture below?



- A 3 inches
- B 4 inches
- C 5 inches
- 27 Measure lengths to nearest whole unit
- A too short
- B correct
- C too long
- 28 Which of the following represents the greatest length?
- A 12 feet
- B 12 inches
- C 12 yards

29 Compare, add, subtract lengths

- A correct
- B incorrect addition
- C added instead of subtracted

30 Which clock appears to show 7:50?

A



B



C



31 Tell time using A.M. and P.M.

- A correct
- B over by one hour
- C switched quarter after with quarter to

32 A puppet show ended at 3:30. The show was half an hour long. At what time did the puppet show begin?

- A 3:00
- B 4:00
- C 4:30

33 Tell time using A.M. and P.M.

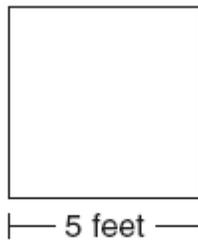
- A added too few minutes
- B correct
- C added too many minutes

- 34** Hugo has one dollar and seventeen cents to spend. Which of the following represents this amount?
- A** \$1.17
 - B** \$1.17¢
 - C** \$117
- 35** Read & write money using decimal notations
- A** used both \$ and ¢ notation with same amount
 - B** correct
 - C** inserted unneeded decimal
- 36** Johnny bought a notebook for \$6.50. He paid for it with a \$10.00 bill. How much change should he have received?
- A** \$4.50
 - B** \$3.50
 - C** \$2.50

37 Solve simple word problems in length & money

- A correct
- B did not include one of addends
- C did not included two of addends

38 Each side of the figure below is the same length. What is the perimeter of the shape?



- A 10 feet
 - B 20 feet
 - C 25 feet
- 39 Determine perimeters of rectangles & triangles

- A length of one side
- B length of two sides
- C correct

40 Which term best describes the three-dimensional shape pictured below?



- A rectangle
- B rectangular prism
- C pyramid

41 Identify, describe, compare 2-D & 3-D shapes

- A incorrect set
- B correct
- C incorrect set

42 Which of these letters is curved and open?

- A O
- B U
- C Z

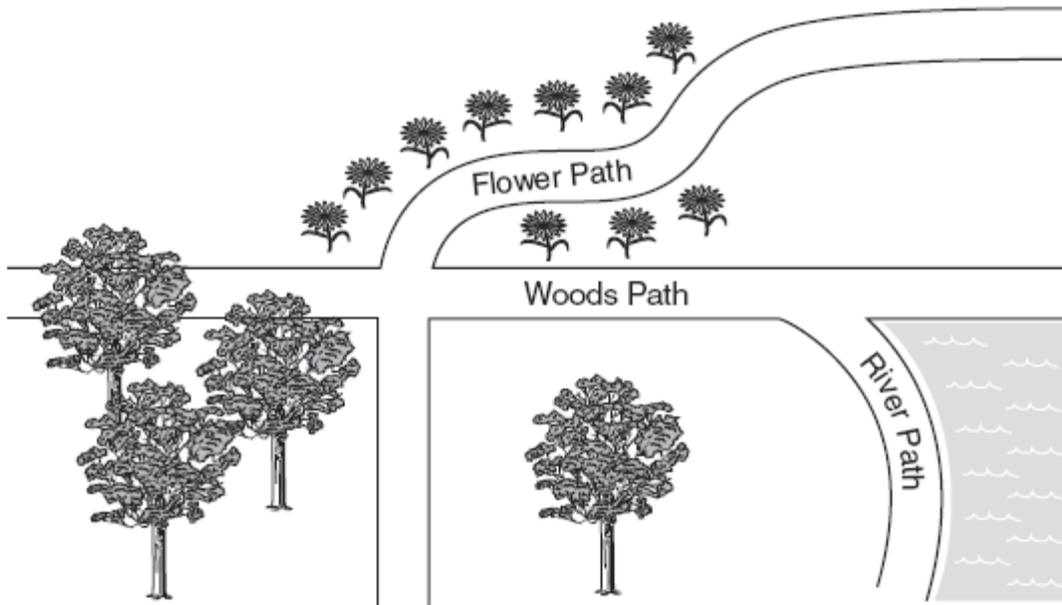
43 Classify familiar plane and solid objects

- A correct
- B incorrect description of sets
- C incorrect description of sets

44 Which of the following is another way to write 100?

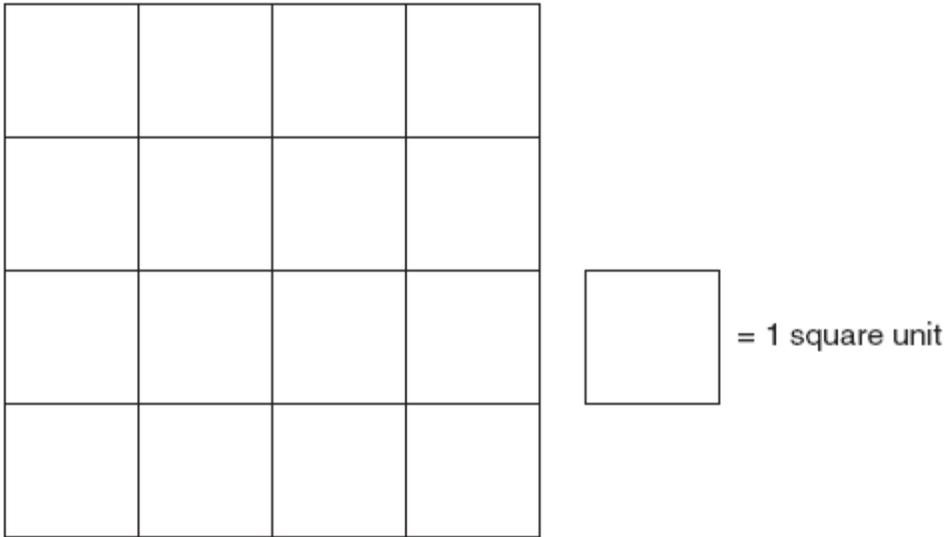
- A 45 + 65
- B 63 + 47
- C 73 + 27

45 Which of the following appears to be a straight path?



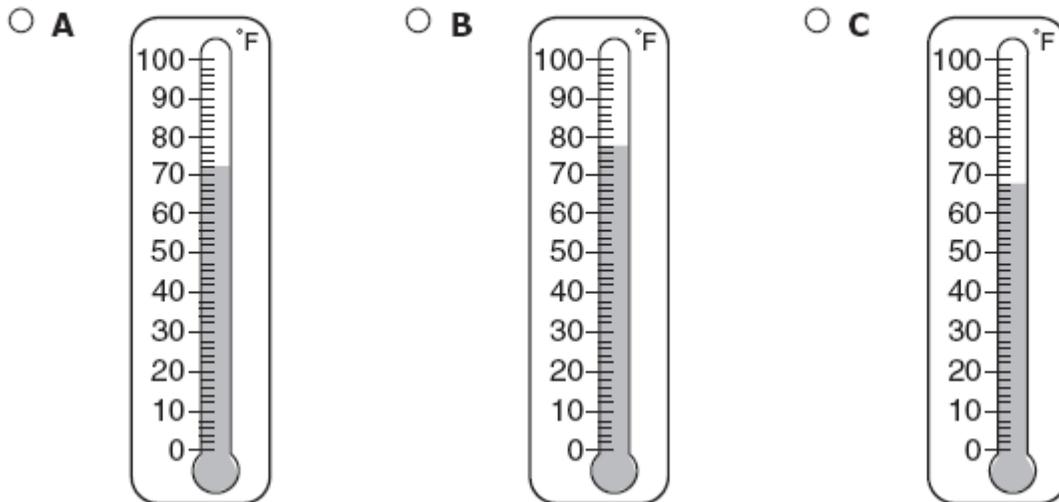
- A Flower Path
- B Woods Path
- C River Path

46 What is the area of this shape?



- A 16 square units
- B 14 square units
- C 12 square units

47 Which thermometer appears to show 72°F?



48 The chart below shows the number of each kind of coin in a jar.

Coins in Jar

Kind of Coin	Number in Jar
Dime	14
Nickel	12
Penny	10

Which of the following correctly represents this data?

A

Coins in Jar

Kind of Coin	Number in Jar
Dime	○○○○○○
Nickel	○○○○○○○○
Penny	○○○○○

Key: Each ○ represents 2 coins.

B

Coins in Jar

Kind of Coin	Number in Jar
Dime	○○○○○○○○○○○○○○○○
Nickel	○○○○○○○○○○○○○○
Penny	○○○○○○○○○○○○○○

Key: Each ○ represents 2 coins.

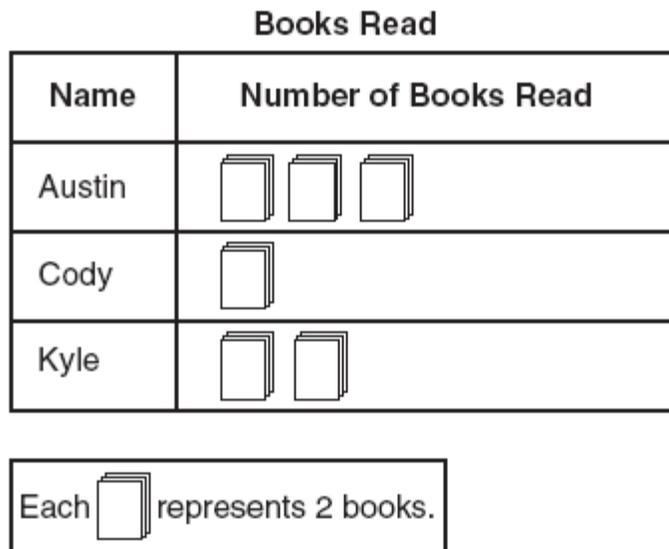
C

Coins in Jar

Kind of Coin	Number in Jar
Dime	○○○○○○○○○○○○○○
Nickel	○○○○○○○○○○○○
Penny	○○○○○○○○○○○○

Key: Each ○ represents 2 coins.

49 The graph below shows the number of books read by three friends.



Who read 6 books?

- A** Austin
- B** Cody
- C** Kyle

- 50 The pictograph below shows the number of pushups each of three students did.

Pushups Done

Name	Number of Pushups
Kaitlyn	√ √ √ √ √
Andrew	√ √ √
Micah	√ √ √ √

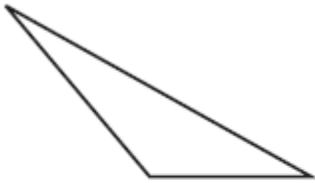
Key: Each √ represents 3 pushups.

How many pushups did Kaitlyn do?

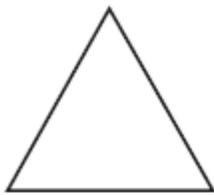
- A** 5
- B** 15
- C** 20

51 Which shape below *cannot* be cut into two triangles that are exactly the same size and shape, with no part of the shape left over?

A



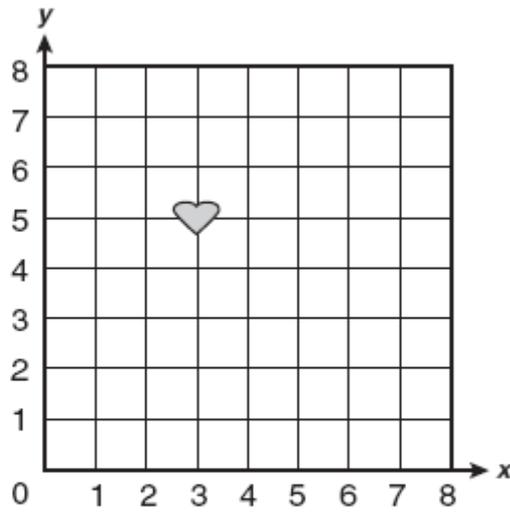
B



C

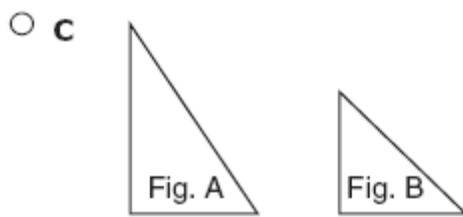
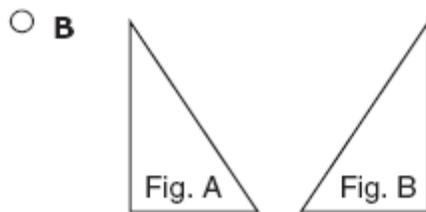
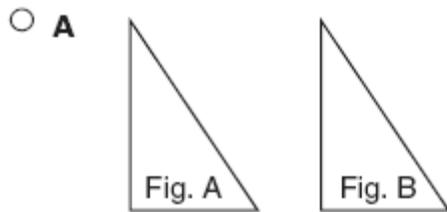


52 What appears to be the location of the heart on the grid?



- A** (5, 3)
- B** (4, 3)
- C** (3, 5)

53 In which of the following does Fig. B appear to be the result of only a slide of Fig. A?



54 Add $\$3.75 + 25\text{¢} + 10\text{¢}$

- A \$7.25
- B \$5.85
- C \$4.10

- 55 Use your overlay sheet to help answer this question.

What is the area of the rectangle shown below?



- A 8 square units
- B 26 square units
- C 40 square units
- 56 Which fraction has the *least* value?

- A $\frac{1}{2}$
- B $\frac{1}{3}$
- C $\frac{1}{4}$

57 Which number means the same as 1?

A $\frac{1}{2}$

B $\frac{1}{3}$

C $\frac{3}{3}$

58 Which equation is in the same fact family as the two equations in the box below?

$5 \times 4 = 20$ $4 \times 5 = 20$

A $5 + 4 = 9$

B $4 \times 20 = 80$

C $20 \div 5 = 4$

Scoring Key: Part 1

Item No.	Correct Answer	GLCE	Type	Description
1	A	N.ME.02.02	Core	Read and write numbers to 1000
2	C	N.ME.02.02	Core	Read and write numbers to 1000
3	C	N.ME.02.03	Core	Compare and order numbers to 1000
4	B	N.ME.02.03	Core	Compare and order numbers to 1000
5	A	N.MR.02.07	Core	Find distance between numbers on a number line
6	B	N.MR.02.07	Core	Find distance between numbers on a number line
7	C	N.MR.02.09	Core	Solve story problems with objects & pictures
8	A	N.MR.02.09	Core	Solve story problems with objects & pictures
9	C	N.FL.02.10	Core	Add fluently two numbers through 99
10	A	N.FL.02.10	Core	Add fluently two numbers through 99
11	C	N.FL.02.11	Core	Estimate sum of two numbers with three digits
12	C	N.FL.02.11	Core	Estimate sum of two numbers with three digits
13	B	N.MR.02.13	Core	Recognize x as total number in a set of equal groups
14	C	N.MR.02.13	Core	Recognize x as total number in a set of equal groups
15	A	N.MR.02.14	Core	Represent x using area and array models
16	A	N.MR.02.14	Core	Represent x using area and array models
17	C	N.ME.02.18	Core	Use common unit fractions
18	A	N.ME.02.18	Core	Use common unit fractions
19	B	N.ME.02.19	Core	Recognize, name and write halves, thirds and fourths
20	C	N.ME.02.19	Core	Recognize, name and write halves, thirds and fourths
21	B	N.ME.02.20	Core	Place 0 and halves on number line; relate to a ruler
22	B	N.ME.02.20	Core	Place 0 and halves on number line; relate to a ruler
23	C	N.ME.02.01	Extended	Count to 1000 by 1s, 10s, and 100s
24	A	N.MR.02.08	Extended	Solve problem such as $42 + \underline{\quad} = 57$
25	A	N.MR.02.16	Extended	Given situation with groups of equal size, represent

Scoring Key: Part 2

Item No.	Correct Answer	GLCE	Type	Description
26	B	M.UN.02.01	Core	Measure lengths to nearest whole unit
27	B	M.UN.02.01	Core	Measure lengths to nearest whole unit
28	C	M.PS.02.02	Core	Compare, add, subtract lengths
29	A	M.PS.02.02	Core	Compare, add, subtract lengths
30	B	M.UN.02.05	Core	Tell time using A.M. and P.M.
31	A	M.UN.02.05	Core	Tell time using A.M. and P.M.
32	A	M.UN.02.06	Core	Use the concept of duration of time
33	B	M.UN.02.06	Core	Use the concept of duration of time
34	A	M.UN.02.07	Core	Read & write money using decimal notations
35	B	M.UN.02.07	Core	Read & write money using decimal notations
36	B	M.PS.02.10	Core	Solve simple word problems in length & money
37	A	M.PS.02.10	Core	Solve simple word problems in length & money
38	B	M.TE.02.11	Core	Determine perimeters of rectangles & triangles
39	C	M.TE.02.11	Core	Determine perimeters of rectangles & triangles
40	B	G.GS.02.01	Core	Identify, describe, compare 2-D & 3-D shapes
41	B	G.GS.02.01	Core	Identify, describe, compare 2-D & 3-D shapes
42	B	G.SR.02.05	Core	Classify familiar plane and solid objects
43	A	G.SR.02.05	Core	Classify familiar plane and solid objects
44	C	N.FL.02.06	Extended	Decompose 100 into addition pairs, e.g., $99 + 1$
45	B	G.GS.02.04	Extended	Know curved/straight lines, curved/flat surfaces
46	A	M.UN.02.03	Extended	Measure area using non-standard units
47	A	M.UN.02.09	Extended	Read temperature in degrees Fahrenheit
48	C	D.RE.02.01	Future	Make pictographs using a scale representation
49	A	D.RE.02.02	Future	Read, interpret pictographs with scales of 2 or 3
50	B	D.RE.02.03	Future	Solve problems using info in pictographs

Scoring Key: Part 2 (Continued)

51	A	G.GS.02.02	Future	Putting together, taking apart 2-D & 3-D shapes
52	C	G.LO.02.07	Future	Find, name points using simple coordinate systems
53	A	G.TR.02.06	Future	Recognize transformed shapes
54	C	M.PS.02.08	Future	Add and subtract money in mixed units
55	C	M.TE.02.04	Future	Find the area of a rectangle using whole units
56	C	N.ME.02.21	Future	Knows denominator, fraction value relationship
57	C	N.ME.02.22	Future	Knows fraction equivalences of one
58	C	N.MR.02.15	Future	Understand relationship of multiplication & division