SAMPLE TEST

2004-2006

MATHEMATICS

GRADE 5

Calculation and Estimation

Measurement

Statistics and Probability

Algebraic Relationships

Geometry

Office of Assessment and Information Services
Oregon Department of Education
255 Capitol Street NE
Salem, Oregon 97310-0203
(503) 378-3600

Susan Castillo, State Superintendent of Public Instruction

Doug Kosty, Assistant Superintendent,
   Office of Assessment and Information Services

Phyllis Rock, Director, Assessment

Steve Slater, Coordinator, Assessment

Cathy Brown, Mathematics Specialist, Assessment

Ken Hermens, Language Arts Specialist, Assessment

Elaine Hultengren, English Language Proficiency Specialist, Assessment

Aaron Persons, Science Specialist, Assessment

Leslie Phillips, Social Sciences Specialist, Assessment

Sheila Somerville, Electronic Publishing Specialist, Assessment

INTRODUCTION TO
MATHEMATICS KNOWLEDGE AND SKILLS
GRADE LEVEL SAMPLE TESTS

BACKGROUND

The Oregon Department of Education provides sample tests to demonstrate the content and types of questions students in grades 3, 4, 5, 6, 7, 8 and at CIM, might encounter on the Oregon Statewide Mathematics Knowledge and Skills (multiple-choice) Assessment administered each year.

ELIGIBLE CONTENT

These sample questions were taken from previous years' tests. They were designed to measure each student's knowledge of mathematics in each of the five content strands:

- **1. calculations and estimations:** numbers, computation and estimation, operations and properties;
- **2. measurement:** units and tools, direct and indirect measurement;
- **3. statistics and probability:** statistics; probability, collect and display data, data analysis and predictions
- **4. algebraic relationships:** patterns and functions, algebraic relationships, modeling, change;
- **5. geometry:** properties and relationships, modeling, coordinate geometry, transformations & symmetry.

As in the operational assessment, students are **strongly encouraged** to use the calculator they are most familiar with when taking the sample test.

The answer key provided at the end of the sample test booklet identifies which of these categories each question is designed to assess.

The same weighting across the five strands of mathematics content is used in both sample and operational tests. This chart shows the percent weighting of strands by grade level:

	1	2	3	4	5
3	25	20	15	20	20
4	20	20	20	20	20
5	20	20	20	20	20
6	15	20	20	25	20
7	15	15	20	30	20
8	15	15	20	30	20
CIM	10	10	20	35	25

WHY PROVIDE STUDENTS WITH A SAMPLE TEST?

Most students feel some anxiety as they approach a test. The more confident students feel about their knowledge of the topic, the less anxious they feel. It also is important that students feel comfortable with the test format and are familiar with test-taking strategies to help them achieve the best possible score.

CONTENTS OF THE SAMPLE TEST:

This overview of the purpose for sample tests, is followed by a list of test-taking tips. The sample test has been formatted the same as an operational mathematics test. A "fill-in-the-bubble" answer sheet for the students to practice with follows the actual sample test. The answer key identifies the correct answer, the score reporting category represented, and a conversion of number correct to approximate RIT scale score. The sample test is approximately one-half the length of the actual assessment, and may not be used in place of the operational assessment.

USING THE SAMPLE TEST:

Teachers often have their students take the test as a "practice" activity in preparation for the actual Statewide Assessment. In addition to the practice in reading and answering questions, some students may benefit from an opportunity to practice marking bubbles on a separate answer sheet. The answer key could be removed prior to making copies of the sample test for student practice. Copies of the answer key could then be provided to students to check their work or to take home and share with parents.

It is important to remember that **students are encouraged to use their calculators and any mathematics manipulatives** on the test. Providing these tools in class and encouraging students to use them during the sample test may be very beneficial in encouraging students to take their time and use the appropriate tools to help them solve problems during the actual test administration. In fact, teachers may want to demonstrate how various tools could be used to solve the multiple-choice problems as part of the practice test activities.

Teachers may use the overall class results to target areas of instruction needing further attention.

Parents may find the sample test helpful in clarifying the types of questions their child will encounter on the multiple-choice test. Parents could also assist their child in preparing for the test by practicing at home. The list of test-taking tips gives parents suggestions on ways to reduce test anxiety and promote good study and health habits in preparation for testing.

Students may wish to use the test independently to practice before the actual test administration, checking their responses against the answer key provided at the end of the booklet. Students may benefit from re-reading the problems and analyzing both the correct and incorrect answers to the multiple-choice questions they missed.

Building principals, superintendents, district testing coordinators, curriculum leaders and others may find the sample test useful in communicating with parents, school site councils, and other community members. Parts of the sample test could be included in a newsletter or shared at meetings of local community groups to help constituents better understand the state assessment system. Although the sample tests are not as comprehensive as the complete tests administered in the Statewide Assessment, they do provide a sampling of the subject area content and difficulty level students will encounter as a part of Oregon's high academic standards.

Assessment Conditions
If the practice test is to be administered in "test-like" conditions, the following steps need to be followed:
- post a "testing, do not disturb" sign on the window or door of the classroom
- go over any directions (e.g., students are to complete the entire test or only a portion of the test at one sitting)
- expect the students to work by themselves with no talking during the assessment
- monitor student activities during the assessment
- provide any of the appropriate accommodations or modifications students might need
- expect all students to participate

TEST-TAKING TIPS

BEFORE THE TEST
- Develop a positive attitude. Tell yourself, "I will do my best on this test."
- Get a good night's sleep the night before the test.
- Get up early enough to avoid hurrying to get ready for school.
- Eat a good breakfast (and lunch, if your test is in the afternoon).

DURING THE TEST
- Stay calm.
- Listen carefully to directions.
- Read each test question and all the answer choices carefully.
- Eliminate any obvious wrong answers
- Solve the problem using paper and pencil, a calculator or by using manipulatives. See if your answer is similar to one of the choices given.
- Pace yourself. If you come to a difficult question, it may be better to skip it and go on. Then come back and focus on the difficult questions one at a time.
- Just like the Statewide Assessment, this is not a timed test. If you need more time to finish the test, notify your teacher.
- Remember the test questions are not arranged by difficulty. If you get to a question you think is too hard, that doesn't mean the rest of the test questions will also be too hard.
- The teachers who write the test questions use "commonly made mistakes" to identify good distractors, so finding an answer like yours is not a guarantee that it is the correct answer.

- If you are not sure of an answer to a question, try these tips:
  - ◊ Get rid of the answers you know are not correct and choose among the rest.
  - ◊ Read through all the answers very carefully, and then go back to the question. Sometimes you can pick up clues just by thinking about the different answers you have to choose from.
  - ◊ If you get stuck on a question, skip it and come back later.
  - ◊ It is OK to guess on this test. Try to make your best guess, but make sure you answer all questions.

AFTER THE TEST
- Before you turn your test in, check it over. Change an answer only if you have a good reason. Generally it is better to stick with your first choice.
- Make sure you have marked an answer for every question, even if you had to guess.
- Make sure your answer sheet is clearly marked with dark pencil. Erase any stray marks.

ADDITIONAL INFORMATION on
mathematics assessment may be obtained by contacting Cathy Brown, Mathematics Assessment Specialist, (email cathy.brown@state.or.us)

Mathematics▼

Read each of the questions below and then decide on the BEST answer. There are a lot of different kinds of questions, so read each question carefully before marking an answer on your answer sheet.

1

A name for this number is _____.

5,000 + 50 + 0.05

A. five thousand, five and five hundredths

B. five thousand, fifty and five hundredths

C. five thousand, five hundred and five hundredths

D. five thousand, fifty and fifty hundredths

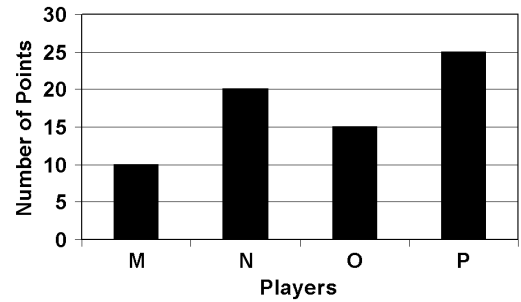## 2

The perimeter of a square is 12 units. What is the length of one side?
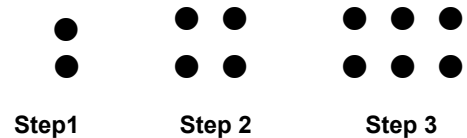
A. 1 unit

B. 2 units

C. 3 units

D. 4 units

3

Using the graph, which player scored the SECOND HIGHEST number of points in the basketball game?

A. M

B. N

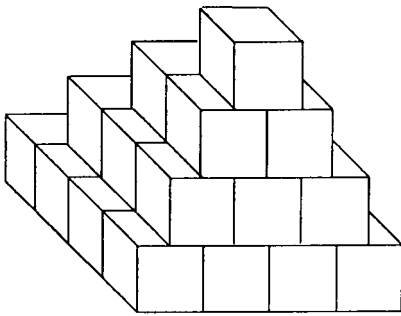C. O

D. P

4

How many dots will be in the eighth step?

A. 64

B. 24

C. 16

D. 8

Mathematics ▼

5

How many cubes are in this solid shape?

A. 16

B. 20

C. 30

D. 36

6

Rita had a roll of film developed for $8.64. Her flash wasn't working so only 9 pictures turned out. How much did each picture cost her?

A. $77.76

B. $17.64

C. $ 0.96

D. $ 0.36

7

Jerry has one yard stick. Determine how many feet are in a yard stick.

A. 4

B. 3

C. 2

D. 1

8

How many packages of soccer cards are there?

SPORTS CARDS

Sport	No. of Cards	No. of Cards in Package
Baseball	630	5
Football	485	5
Basketball	575	5
Hockey	235	5
Soccer	310	5

A. 5

B. 62

C. 310

D. 315

9

What number is missing in the pattern?

1, 4, 9, __, 25

A. 12

B. 16

C. 18

D. 36

M2

10

Which of the following shows an equilateral triangle?

A.

C.

B.

D.
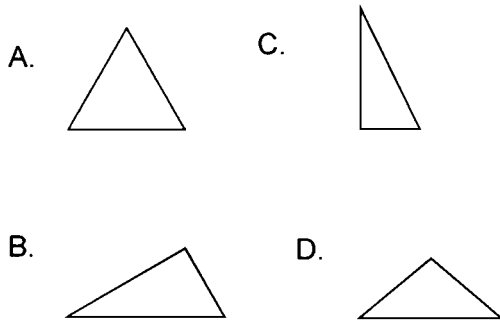
11

How many of the following numbers are prime?

7	8	9
10	11	12
13	14	15
16	17	18

A. 2

B. 3

C. 4

D. 12

12

Linda's rectangular fort is 7 meters long and 5 meters wide. What is the perimeter of her fort?

A. 2 meters

B. 12 meters

C. 24 meters

D. 35 meters

13

Carolyn's test scores are 75, 72, 81, 94 and 73. Find the mean of her scores.

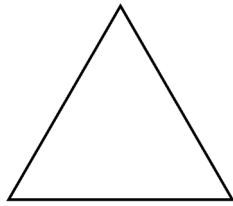A. 81

B. 79

C. 77

D. 75

14

There are 32 teams in a tournament. Only the winners go to the next round. The losing teams go home. How many **GAMES** must be played before there is only 1 team left?

A. 64

B. 31

C. 16

D. 8

Mathematics▼

15

Each angle in this triangle is what?

    A. Acute

    B. Obtuse

    C. Right

    D. Equilateral

16

Janice and three of her friends went out for breakfast. When the bill came, the total was $18.00. They decided to evenly split the cost. How much did each of them pay?

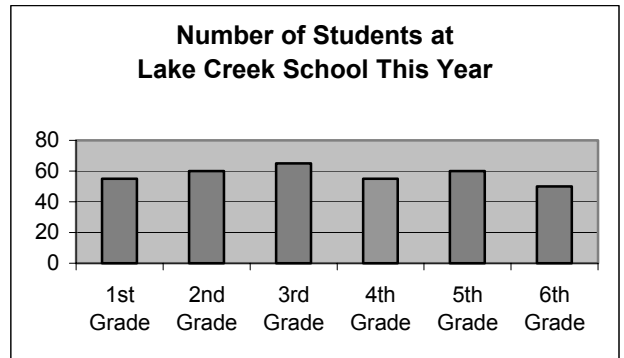   A. $ 4.50

    B. $ 6.00

    C. $14.50

    D. $72.00

17

Starting the first week of January, Mari puts $1.25 in her coin bank every week. How much money will she have at the end of the year?

    A. $ 8.75

    B. $ 65.00

    C. $456.25

    D. $627.50

18

About how many students are in 4th grade at Lake Creek School?

    A. 65

    B. 55

    C. 50

    D. 40

19
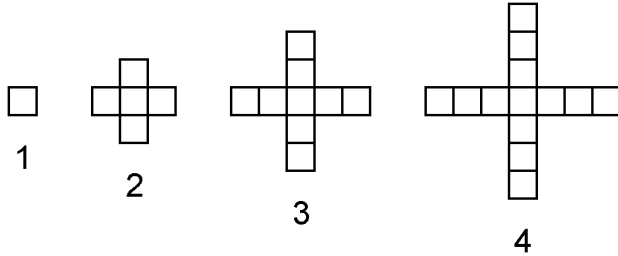
Choose the next three numbers in this DECREASING sequence.

96, 87, 78, __, __, __

    A. 96, 87, 78

    B. 69, 78, 87

    C. 69, 60, 51

    D. 67, 56, 45

M4

20

1   2   3   4

How many squares would be needed for the 7th pattern?

A. 25

B. 24

C. 21

D. 17

21
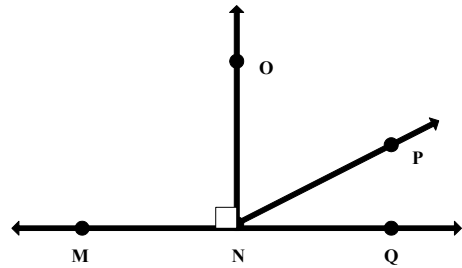
Which list contains only prime numbers?

A. 1, 3, 5, 7, 9

B. 2, 4, 6, 8, 10

C. 3, 6, 9, 12, 15

D. 7, 11, 13, 17, 19

22
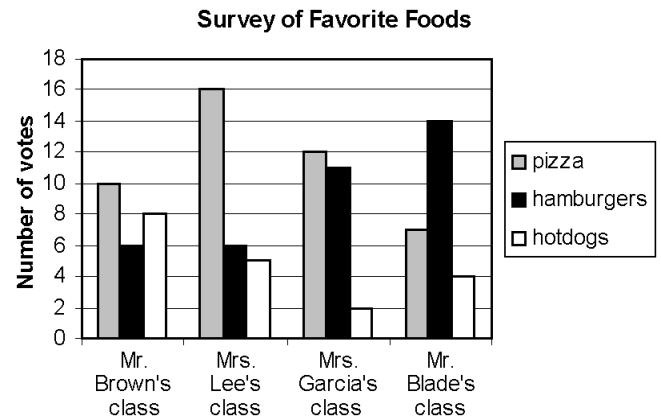
Which of the following angles measures approximately 30 degrees?

A. Angle PNQ

B. Angle ONP

C. Angle MNO

D. Angle ONQ

23

Survey of Favorite Foods

There are 28 students in Mrs. Garcia's class. According to the graph, how many students in her class did not participate in the survey?

A. 1 student

B. 3 students

C. 4 students

D. 5 students

Mathematics ▼

24

Cindy needs to graph the following equation: y = 2x + 5. Which table below will help her correctly graph the equation?

A.

x	y
-2	1
-1	3
0	5
1	7
2	9
3	11
4	13

B.

x	y
-2	-9
-1	-7
0	-5
1	-3
2	-1
3	1
4	3

C.

x	y
-2	-1
-1	-3
0	-5
1	-7
2	-9
3	-11
4	-13

D.

x	y
-2	9
-1	7
0	5
1	3
2	1
3	-1
4	-3

25

Club Quadrilateral

Figure 1. Figure 2.

Figure 3. Figure 4.
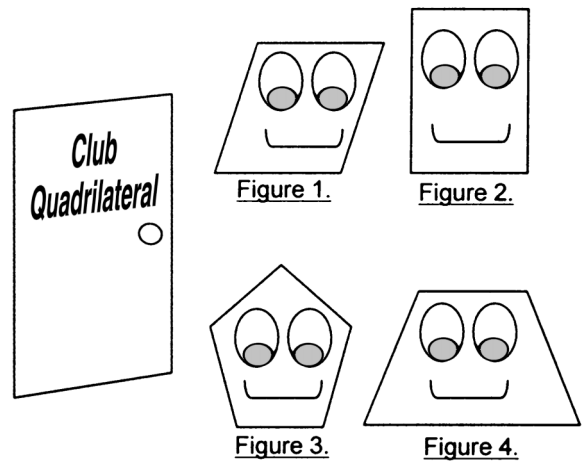
Only quadrilaterals are allowed to join Club Quadrilateral. Which figure can NOT join Club Quadrilateral?

  A. 1

  B. 2

  C. 3

  D. 4

M6

Oregon Mathematics Sample Test

Use number 2 pencil.
Do NOT use ink or ball point pen.
Make heavy dark marks that completely fill the circle.
Erase completely any marks you wish to change.

Name of Student

_____

Name of Teacher

_____

Name of School

_____

1 Ⓐ Ⓑ Ⓒ Ⓓ

2 Ⓐ Ⓑ Ⓒ Ⓓ

3 Ⓐ Ⓑ Ⓒ Ⓓ

4 Ⓐ Ⓑ Ⓒ Ⓓ

5 Ⓐ Ⓑ Ⓒ Ⓓ

6 Ⓐ Ⓑ Ⓒ Ⓓ

7 Ⓐ Ⓑ Ⓒ Ⓓ

8 Ⓐ Ⓑ Ⓒ Ⓓ

9 Ⓐ Ⓑ Ⓒ Ⓓ

10 Ⓐ Ⓑ Ⓒ Ⓓ

11 Ⓐ Ⓑ Ⓒ Ⓓ

12 Ⓐ Ⓑ Ⓒ Ⓓ

13 Ⓐ Ⓑ Ⓒ Ⓓ

14 Ⓐ Ⓑ Ⓒ Ⓓ

15 Ⓐ Ⓑ Ⓒ Ⓓ

16 Ⓐ Ⓑ Ⓒ Ⓓ

17 Ⓐ Ⓑ Ⓒ Ⓓ

18 Ⓐ Ⓑ Ⓒ Ⓓ

19 Ⓐ Ⓑ Ⓒ Ⓓ

20 Ⓐ Ⓑ Ⓒ Ⓓ

21 Ⓐ Ⓑ Ⓒ Ⓓ

22 Ⓐ Ⓑ Ⓒ Ⓓ

23 Ⓐ Ⓑ Ⓒ Ⓓ

24 Ⓐ Ⓑ Ⓒ Ⓓ

25 Ⓐ Ⓑ Ⓒ Ⓓ

GRADE 5 MATHEMATICS SAMPLE TEST KEY 2004 – 2006

Test Item	Correct Answer	Score Reporting Category	SRC Coding
1	B	Calculations and Estimations	1.2.511
2	C	Measurement	2.2.511
3	B	Statistics and Probability	3.3.55
4	C	Algebraic Relationships	4.1.53
5	C	Geometry	5.2.53
6	C	Calculations and Estimations	1.2.511
7	B	Measurement	2.1.52
8	B	Statistics and Probability	3.3.55
9	B	Algebraic Relationships	4.1.53
10	A	Geometry	5.1.51
11	C	Calculations and Estimations	1.1.513
12	C	Measurement	2.2.64
13	B	Statistics and Probability	3.4.51
14	B	Algebraic Relationships	4.1.53
15	A	Geometry	5.1.51
16	A	Calculations and Estimations	1.2.511
17	B	Calculations and Estimations	1.2.511
18	B	Statistics and Probability	3.3.55
19	C	Algebraic Relationships	4.1.53
20	A	Algebraic Relationships	4.1.63
21	D	Calculations and Estimations	1.1.513
22	A	Measurement	2.2.510
23	B	Statistics and Probability	3.3.55
24	A	Algebraic Relationships	4.2.56
25	C	Geometry	5.1.51

CONVERTING TO A RIT SCORE

Number Correct	RIT score	Number Correct	RIT score
1	181.4	14	217.9
2	188.9	15	219.8
3	193.6	16	221.7
4	197.1	17	223.8
5	199.9	18	225.9
6	202.5	19	228.2
7	204.8	20	230.8••
8	206.9	21	233.8
9	208.8	22	237.4
10	210.7	23	242.2
11	212.6	24	249.9
12	214.4	25	257.2
13	216.2•		

• Likely to meet Grade 5 Standards   •• Likely to exceed Grade 5 Standards

Students with 9 or fewer correct answers are likely to take Form A.

Note: The sample test is for practice only; scores may not be substituted for the Oregon Statewide Assessment.