MATHEMATICS

GRADE LEVEL SAMPLE TEST 2003-2005

GRADE

Calculation and Estimation Measurement Statistics and Probability Algebraic Relationships Geometry



DIRECTIONS

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

The 8th grade party committee has decided to give an equal number of pieces of candy to each participant. There are 256 pieces to give away. If all of the candy is given away, which of these could <u>not</u> be the number of pieces of candy given away to each person under this plan?

Α.	128	C.	16
В.	36	D.	8

2

Each block weighs the same. What is the <u>approximate</u> weight of one block?



- B. About 6 pounds
- C. About 7 pounds
- D. About 8.5 pounds

3

Α.

Β.

C.

D. $\frac{1}{2}$

John throws a fair 6-sided die. What is the chance he will get a 3 OR a 6?



4

Graciella is one year less than twice as old as her youngest brother. Which expression could be used to show her age?

- A. 1-2b
- B. 2b-1
- C. 2b
- D. 2b+1

5

How many lines of symmetry are in this figure?



6

Which of the following sets of numbers contains only prime numbers?

- A. 1, 5, 17, 31, 60
- B. 2, 9, 17, 29, 53
- C. 2, 13, 19, 43, 57
- D. 7, 23, 37, 47, 61

7

What is the difference in the lengths of segments \overline{A} and \overline{B} ?



8

According to the graph, which of the following is true?



- A. Over half the day is taken up by sleeping and eating.
- B. School and homework make up approximately half of the waking hours.
- C. The total time spent on chores and homework is greater than the amount of free time.
- D. The largest part of the day is spent at school.

9

On January 4, the temperature at 2 p.m. was 5° C. At 11 p.m. it had dropped to -3° C. To find the number of degrees the temperature dropped, which equation could you use?

- A. 5-3 = xB. 5-(-x) = -3C. 5-x = -3
- D. x (-3) = 5

10

A spoke on a bicycle wheel is most like which part of a circle?



- A. A radius
- B. A chord
- C. The circumference
- D. An arc

11

About 60% of the used white paper is recycled at Lance's school. The school uses 1,260 pounds of white paper per month. Which is the best estimate for the number of pounds of white paper recycled per month?

Α.	500-560	C. 720-780
В.	600-660	D. 850-910

12

A farmer needs to put up a fence around her pasture. How many <u>yards</u> of fencing will she need?



13

During a week in January in Alaska the following high temperatures were recorded:

Anchorage:	15°, 6°, -2°, 2°, -6°, -7°, -12°
Juneau:	13°, 10°, -4°, -2°, -2°, 2°, -4°

Which of the following is the best symbol to use to compare the mean high temperatures of Anchorage and Juneau?

- A. Mean in Anchorage = Mean in Juneau
- B. Mean in Anchorage \geq Mean in Juneau
- C. Mean in Anchorage > Mean in Juneau
- D. Mean in Anchorage < Mean in Juneau

14 Use these objects to find the value of each Y variable.



15

What best describes an unopened box of tissue and a book?

- A. Both are rectangular pentagons.
- B. Both are rectangular prisms.
- C. Both are rectangular pyramids.
- D. Both are rectangular polygons.

16

Amy, John, and Carlos each measure the distance from their classroom to the drinking fountain. Who measured with the most precision?

- Amy
 16.5 m

 John
 16 m

 Carlos
 16.47 m
- A. Amy
- B. John
- C. Carlos
- D. There is no way to tell

17



What is the area of triangle A (-2, 0), B (4, 0), and C (2, 7)?

- A. 18 square units
- B. 21 square units
- C. 24 square units
- D. 36 square units

18

What is the probability that a teacher chosen at random will be a male?

	SCHOOL	TEAC	HERS
	Age in years	Male	Female
	Under 25	5	7
	25-34	10	11
	35-44	15	17
	45-54	7	11
	55 or over	8	5
A.	$\frac{1}{2}$	C. $\frac{13}{32}$	
В.	$\frac{9}{20}$	D. $\frac{15}{32}$	

19



Which of these is a true statement about this pattern?

- A. On the big **rectangles** the top row of squares is always one longer than the other rows.
- B. The extra squares on the top right exactly "fill in" for the ones missing on the left.
- C. **Every** column is the same height as the pattern number.
- D. Each **new** pattern adds one row and two columns.

20



Kaylor wants to cover a cube with paper. Which expression provides a formula for the SURFACE AREA of the cube?

- A. $S = 6x^2$.
- B. $S = 4x^2$.
- C. $S = x^{3}$.
- D. $S = x^{6}$.

21

How many whole numbers will divide into 36 evenly?

A. 7 B. 8 C. 9 D. 10

22

A circle has a radius of 7 inches. What is the <u>approximate</u> area of the circle?



- A. 20 square inches
- B. 40 square inches
- C. 90 square inches
- D. 150 square inches

23

What is the range of the following numbers?

- 3, 7, 2, 7, 4, 8, 2, 3, 2
- A. 2 B. 3
- C. 4
- D. 6

24

A farmer has 6 times as many Holstein as Jersey cows. What proportion of the total number of cows are Holsteins?



25

A geometric solid that has 7 faces, 10 vertices, and 15 edges is best described as a _____.

- A. hexagonal prism
- B. pentagonal prism
- C. heptagonal prism
- D. rectangular prism

BENCHMARK III (GRADE 8) MATHEMATICS SAMPLE TEST KEY 2003 - 2005

Test Item	Correct Answer	Score Reporting Category
1	В	Calculations and Estimations
2	С	Measurement
3	С	Statistics and Probability
4	В	Algebraic Relationships
_5	В	Geometry
6	D	Calculations and Estimations
7	A	Measurement
8	В	Statistics and Probability
9	С	Algebraic Relationships
<u>10</u>	A	Geometry
11	С	Calculations and Estimations
12	В	Measurement
13	D	Statistics and Probability
14	С	Algebraic Relationships
<u>15</u>	В	Geometry
16	С	Calculations and Estimations
17	В	Measurement
18	D	Statistics and Probability
19	D	Algebraic Relationships
<u>20</u>	A	Geometry
21	С	Calculations and Estimations
22	D	Measurement
23	D	Statistics and Probability
24	D	Algebraic Relationships
25	В	Geometry

CONVERTING TO A RIT SCORE			
Number Correct	RIT score	Number Correct	RIT score
1	198	14	234
2	205	15	236
3	210	16	238
4	213	17	240••
5	216	18	242
6	219	19	244
7	221	20	246
8	223	21	249
9	225	22	253
10	227	23	258
11	229	24	265
12	230	25	272
13	232*		

Recommendations for Level Test Placement:

• Likely to meet Benchmark III Standards

•• Likely to exceed Benchmark III Standards

Students with 8 or fewer correct answers are likely to take Form A Students with 19 or more correct answers are likely to take Form C

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