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

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

2

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

- A. 500-560
- B. 600-660
- C. 720-780
- D. 850-910

3

If the length and width of a rectangle are doubled, what is the effect on the area? It becomes:

- A. two times as great.
- B. three times as great.
- C. four times as great.
- D. eight times as great.

4



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.

5

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 = x
 B. 5 − (−x) = −3
- C. 5 x = -3
- D. x (-3) = 5





In \triangle ABC, a median is drawn from point A to a point D. \overline{AD} is _____.

- A. The bisector of \overline{BC}
- B. The angle bisector of A
- C. Perpendicular to $\overline{\text{BC}}$
- D. All of the above

7

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 average high temperatures of Anchorage and Juneau?

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





What is the volume of this figure?

- A. 5 cm³
- B. 6 cm³
- C. 7 cm³
- D. 8 cm³

9

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

SCHOOL TEACHERS			
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.
$$\frac{1}{2}$$

B. $\frac{9}{20}$
C. $\frac{13}{32}$
D. $\frac{15}{32}$

10

Twice a number (z) added to 21 is equal to 9 times the number added to 7. What is the number?

- A. z = -4
- B. z = -2
- C. z = 2
- D. z = 4

11 L M (2, 5) K (-4, -1) N

Figure KLMN is a square. What are the coordinates of point L?

- A. (-4, 5)
- B. (-2, 5)
- C. (-1, 5)
- D. (5, -4)

12

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



The solution to a set of inequalities is graphed. Which of the following could be the set of inequalities?

A. $2x + y \le 4$ $y \ge 0$ B. $2x + y \ge 4$ $y \ge 0$ C. $2x + y \le 4$ $y \le 0$ D. $2x + y \ge 4$ $y \le 0$



Bob is going to build a store. He draws a scale drawing of the store with a scale of 1 inch = 40 feet. Find the actual width of the store.

- A. 40 feet
- B. 50 feet
- C. 60 feet
- D. 70 feet

15

Origin of Foreign Students in U.S. College



Of the 500,000 foreign students who attended college in the U.S. in one year, how many were from Europe OR Asia?

Α.	330,000	С.	210,000
Β.	270,000	D.	60,000

16

Paula and James found 3 ordered pairs as part of a solution set for y = 4x - 2. They decided to plot the points {(0, -2), $(\frac{1}{2}, 0)$, (1, 2)} to find the relationship represented. Which graph did they

relationship represented. Which graph did they draw? A. $4^{\frac{y}{4}} t$



17



Using the information in figure ABCD, find the area of $\Delta ABD.$

- A. 24 sq. units
- B. 30 sq. units
- C. 32 sq. units
- D. 36 sq. units

18

Tim was given \$100 for his twelfth birthday. He's curious to see how much it will grow to if he earns interest on it. His mother tells him that she has about \$3000 in the same kind of account and she earned \$90 last year. About how much interest could Tim expect to earn in a year?

- A. \$ 0.90
- B. \$ 3.00
- C. \$ 9.00
- D. \$30.00

19

This is a rectangular solid.



Megan needs to fill the box shown with cubes that are 2 inches on each side. How many cubes will she need?

- A. 30
- B. 60
- C. 120
- D. 240

20

A dart hits a random point inside the square. What is the probability it will hit the target outside of the circle?



A.
$$\frac{\pi}{16}$$

B. $\frac{64 - 16\pi}{64}$
C. $\frac{16 - 8\pi}{16}$

D.
$$\frac{\pi}{4}$$

21

Mrs. Herrera is playing a game with her students. She says, "65 subtracted from my number is 32." Which equation could be used to find her number?

- A. N 65 = 32
- B. 32 N = 65
- C. 65 N = 32
- D. 65 32 = N

22



Find the perimeter of ABCD.

- A. 12 units
- B. 19 units
- C. 32 units
- D. 37 units

23

In this set of data:

- 5, 3, 9, 7, 5, 19, 4
- 5 represents the _____
 - A. mean
 - B. median
 - C. mode
 - D. median & mode

24

Which table gives solutions for the equation

$$y + 1 = -\frac{1}{2}x?$$





25

Jacob is 5.4 feet tall and casts a shadow that is 4 feet long. At the same place and time of day, a tree casts a shadow that is 22 feet long. Approximately what is the height of the tree?

Α.	16.3 feet	C.	27.4 feet
В.	26.0 feet	D.	29.7 feet

GRADE 8 MATHEMATICS SAMPLE TEST KEY 2004 – 2007

1BAlgebraic Relationships4.2.852CCalculations and Estimations1.1.873CMeasurement2.2.8114BStatistics and Probability3.3.855CAlgebraic Relationships4.2.876DGeometry5.1.817DCalculations and Estimations1.2.818BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8722CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	Test Item	Correct Answer	Score Reporting Category	SRC Coding
2CCalculations and Estimations1.1.873CMeasurement2.2.8114BStatistics and Probability3.3.855CAlgebraic Relationships4.2.876DGeometry5.1.817DCalculations and Estimations1.2.818BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	1	В	Algebraic Relationships	4.2.85
3CMeasurement2.2.8114BStatistics and Probability3.3.855CAlgebraic Relationships4.2.876DGeometry5.1.817DCalculations and Estimations1.2.818BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.2.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	2	С	Calculations and Estimations	1.1.87
4BStatistics and Probability3.3.855CAlgebraic Relationships4.2.876DGeometry5.1.817DCalculations and Estimations1.2.818BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.2.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	3	С	Measurement	2.2.811
5CAlgebraic Relationships4.2.876DGeometry5.1.817DCalculations and Estimations1.2.818BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.2.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	4	В	Statistics and Probability	3.3.85
6DGeometry5.1.817DCalculations and Estimations1.2.818BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	5	С	Algebraic Relationships	4.2.87
7DCalculations and Estimations1.2.818BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	6	D	Geometry	5.1.81
8BMeasurement2.2.7159DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	7	D	Calculations and Estimations	1.2.81
9DStatistics and Probability3.2.8110CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	8	В	Measurement	2.2.715
10CAlgebraic Relationships4.3.8111AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	9	D	Statistics and Probability	3.2.81
11AGeometry5.3.8112DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	10	С	Algebraic Relationships	4.3.81
12DCalculations and Estimations1.1.8713BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	11	A	Geometry	5.3.81
13BAlgebraic Relationships4.2.8214DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	12	D	Calculations and Estimations	1.1.87
14DMeasurement2.1.8115AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	13	В	Algebraic Relationships	4.2.82
15AStatistics and Probability3.2.8116AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	14	D	Measurement	2.1.81
16AAlgebraic Relationships4.2.8717BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	15	Α	Statistics and Probability	3.2.81
17BGeometry5.1.8918BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	16	A	Algebraic Relationships	4.2.87
18BCalculations and Estimations1.1.8719AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	17	В	Geometry	5.1.89
19AMeasurement2.2.81120BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	18	В	Calculations and Estimations	1.1.87
20BStatistics and Probability3.2.8121AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	19	A	Measurement	2.2.811
21AAlgebraic Relationships4.2.8222CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	20	В	Statistics and Probability	3.2.81
22CGeometry5.1.8923DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	21	A	Algebraic Relationships	4.2.82
23DStatistics and Probability3.1.8124DAlgebraic Relationships4.2.8725DGeometry5.1.88	22	С	Geometry	5.1.89
24DAlgebraic Relationships4.2.8725DGeometry5.1.88	23	D	Statistics and Probability	3.1.81
25 D Geometry 5.1.88	24	D	Algebraic Relationships	4.2.87
	25	D	Geometry	5.1.88

CONVERTING TO A RIT SCORE				
Number Correct	RIT score	Number Correct	RIT score	
1	200.3	14	236.8	
2	207.8	15	238.5	
3	212.5	16	240.4	
4	216.0	17	242.4	
5	218.9	18	244.4	
6	221.4	19	246.7	
7	223.7	20	249.2	
8	225.8	21	252.1	
9	227.8	22	255.6	
10	229.6	23	260.2	
11	231.4	24	267.8	
12	233.2	25	274.9	
13	234.9			

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