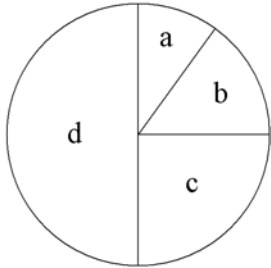# Mathematics ▼

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.
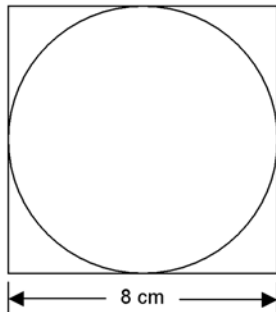
1

Which region represents 25% of the circle?

- A. a
- B. b
- C. c
- D. d

2

In the figure, each side of the square measures 8 cm. What is the approximate circumference of the circle?

- A.   12.56 cm
- B.   25.12 cm
- C.   50.24 cm
- D. 200.96 cm

3

Using a numbered cube with digits 1-6 on its faces, what is the probability of rolling a 4?

- A. $\frac{4}{6}$
- C. $\frac{1}{3}$
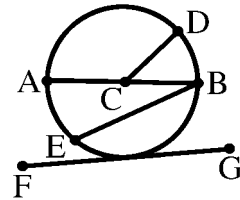- B. $\frac{2}{3}$
- D. $\frac{1}{6}$

4

What rule best describes this pattern (going from left to right)?

48, 24, 12, 6

- A. Each number decreases by 24 to get the next number.
- B. Each number is divided by 2 to get the next number.
- C. Each number is increased by 6 to get the next number.
- D. Each number is doubled to get the next number.

5

What word describes line segment BE?

- A. Chord
- B. Diameter
- C. Radius
- D. Perpendicular

Mathematics▼

6

Put these fractions in order from least to greatest.

$$\frac{2}{3} \quad \frac{3}{4} \quad \frac{1}{2} \quad \frac{2}{6} \quad \frac{1}{8}$$

A. $\dfrac{1}{8}, \dfrac{2}{6}, \dfrac{1}{2}, \dfrac{2}{3}, \dfrac{3}{4}$

B. $\dfrac{1}{2}, \dfrac{1}{8}, \dfrac{2}{3}, \dfrac{2}{6}, \dfrac{3}{4}$

C. $\dfrac{1}{2}, \dfrac{2}{3}, \dfrac{3}{4}, \dfrac{2}{6}, \dfrac{1}{8}$

D. $\dfrac{1}{8}, \dfrac{2}{6}, \dfrac{1}{2}, \dfrac{3}{4}, \dfrac{2}{3}$

7

Mari planted a vegetable garden in June that was 4 feet by 6 feet. In July she planted a second garden that was 3 feet by 7 feet. What is the **total** square feet of garden space?

A. 40 square feet

B. 41 square feet

C. 45 square feet

D. 49 square feet

8

The chart is a listing of western states and maximum speeds allowed on rural interstates. Determine the mode of the speeds listed.

Alaska	65 mph
Arizona	75 mph
California	70 mph
Idaho	75 mph
Montana	75 mph
Nevada	75 mph
Oregon	65 mph
Washington	70 mph

A. 65 mph

B. 71.25 mph

C. 72.50 mph

D. 75 mph

9

How many cubes will be in the 5th pattern?

1   2   3
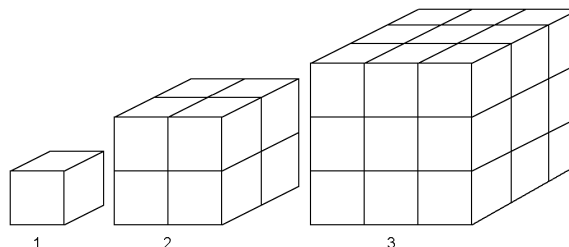
A. 15 cubes

B. 25 cubes

C. 75 cubes

D. 125 cubes

10

6 ft

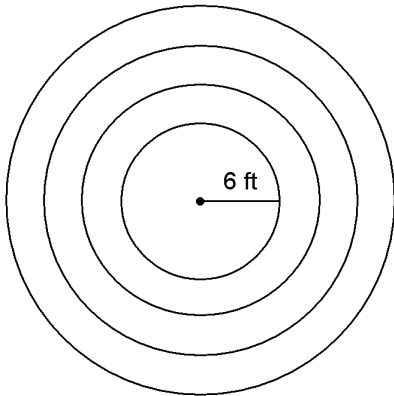Cris's family took a trip to visit the new local gardens. While there they saw an unusual circular design created from different stones found around the state. The drawing shown illustrates the design. There are 3 feet between each ring of stones. What is the diameter of the entire circular design?

A. 15 feet

B. 21 feet

C. 27 feet

D. 30 feet

11

Arrange from smallest to largest:

$$2, 2\frac{3}{4}, \frac{8}{3}, 2.6$$

A. $2, 2.6, 2\frac{3}{4}, \frac{8}{3}$

B. $2, 2\frac{3}{4}, 2.6, \frac{8}{3}$

C. $2, 2.6, \frac{8}{3}, 2\frac{3}{4}$

D. $2, \frac{8}{3}, 2.6, 2\frac{3}{4}$

12

The Oregon Sugar Company needs to order boxes to hold sugar cubes. How many 1 in. by 1 in. by 1 in. sugar cubes will fit in a box that measures 8 in. by 7 in. by 3 in.?

A. 18 sugar cubes

B. 59 sugar cubes

C. 112 sugar cubes

D. 168 sugar cubes

13

How much more is the average price of a giant pizza than a medium pizza?

	Medium	Giant
Cheese	$ 7.00	$10.00
Pepperoni	$ 9.00	$13.00
Hawaiian	$11.00	$14.00
Vegetarian	$12.00	$16.00

A. $3.50

B. $3.75

C. $4.00

D. $8.00

Mathematics ▼

14

Mari's allowance increases by $1.00 each week. She receives $4.00 the first week. How much money will she receive the fourth week?

    A. $6.00

    B. $7.00

    C. $8.00

    D. $9.00

15

A four-sided figure measures four feet on one length, five feet on the opposite length, and three feet on each connecting length. This figure could be a _____.

    A. rectangle

    B. square

    C. rectangular solid

    D. trapezoid

16

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

17
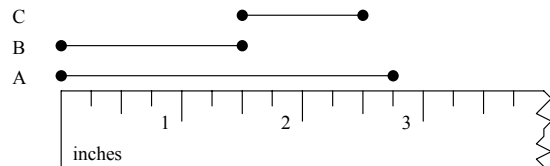
What is the difference in the lengths of segments $\overline{A}$ and $\overline{B}$?

    A. $1\dfrac{1}{4}$

    B. $1\dfrac{1}{2}$

    C. $1\dfrac{3}{4}$

    D. $4\dfrac{1}{4}$

18

Out of 36 students, four students are named Pat. Each of the students puts his or her name on an index card. If a card is drawn at random, what is the probability it will say "Pat"?

    A. $\dfrac{1}{36}$

    B. $\dfrac{1}{12}$

    C. $\dfrac{1}{9}$

    D. $\dfrac{1}{4}$

19

The state fair was in town, and everyone was excited. The carnival games were the most popular attractions. The first day the fair was open, 2 people won stuffed animals. The second day 4 people won, the third day 6 people won, and so on. If the fair was open for **n** days, how many people would win on the nth day, if this pattern continued?

   A. $2 + n$

   B. $2n$

   C. $\dfrac{n}{2}$

   D. $\dfrac{2}{n}$

20

This figure is most often called _____.

   A. a trapezoid

   B. a parallelogram

   C. a rectangle

   D. a rhombus

21

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

110 ft, 20 ft, 40 ft, 70 ft, 20 ft, 40 ft
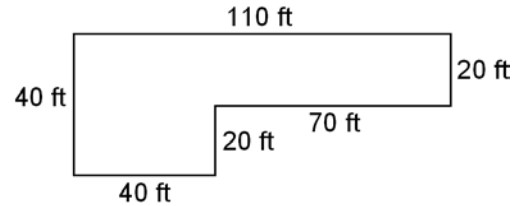
   A. 300 yards

   B. 100 yards

   C. 75 yards

   D. 50 yards

22

WEEK	FLOWERS
1	1
2	3
3	6
4	10
5	15

Marta has a garden. Every week more flowers grow. One flower grows during week 1. Three flowers grow during week 2. The pattern continues, as shown in the table. How many flowers grow during week 9?

   A. 37

   B. 40

   C. 45

   D. 56

Mathematics▼

23

What is the mean price of the Backpacks?

Price of Backpacks				
$25	$13	$47	$30	$25

   A. $25
   B. $28
   C. $34
   D. $47

24

Fig 1 Fig 2   Fig 3   Fig 4   Fig 5

Allen built these figures using triangular tiles. What would be the perimeter of the tenth figure?

   A. 10 units
   B. 12 units
   C. 21 units
   D. 30 units

25

Study the picture of "Mr. Circle the Clown." Given the following lengths, what would be the length of segment CE?

     Segment GI = 10 millimeters

     Segment DG = 30 millimeters

   A. 30 millimeters
   B. 40 millimeters
   C. 60 millimeters
   D. 80 millimeters

M6

GRADE 6 MATHEMATICS SAMPLE TEST KEY 2004 – 2007

Test Item	Correct Answer	Score Reporting Category	SRC Coding
1	C	Calculations and Estimations	1.1.61
2	B	Measurement	2.2.613
3	D	Statistics and Probability	3.4.62
4	B	Algebraic Relationships	4.1.61
5	A	Geometry	5.1.62
6	A	Calculations and Estimations	1.1.61
7	C	Measurement	2.2.615
8	D	Statistics and Probability	3.1.61
9	D	Algebraic Relationships	4.1.61
10	D	Geometry	5.1.62
11	C	Calculations and Estimations	1.1.61
12	D	Measurement	2.2.611
13	A	Statistics and Probability	3.1.61
14	B	Algebraic Relationships	4.1.61
15	D	Geometry	5.1.61
16	D	Calculations and Estimations	1.1.614
17	A	Measurement	2.2.64
18	C	Statistics and Probability	3.4.62
19	B	Algebraic Relationships	4.1.61
20	B	Geometry	5.1.61
21	B	Measurement	2.1.62
22	C	Algebraic Relationships	4.1.61
23	B	Statistics and Probability	3.1.61
24	B	Algebraic Relationships	4.1.611
25	D	Geometry	5.1.62

CONVERTING TO A RIT SCORE

Number Correct	RIT score	Number Correct	RIT score
1	189.0	14	226.3
2	196.7	15	228.2
3	201.5	16	230.1
4	205.1	17	232.0
5	208.0	18	234.1
6	210.6	19	236.4
7	212.9	20	238.9
8	215.1	21	241.8
9	217.1	22	245.3
10	219.0	23	249.9
11	220.9	24	257.5
12	222.7	25	264.7
13	224.5		

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