# MATHEMATICS

## GRADE LEVEL

# SAMPLE TEST

## 2003-2005

### GRADE

# 7

Calculation and Estimation

Measurement

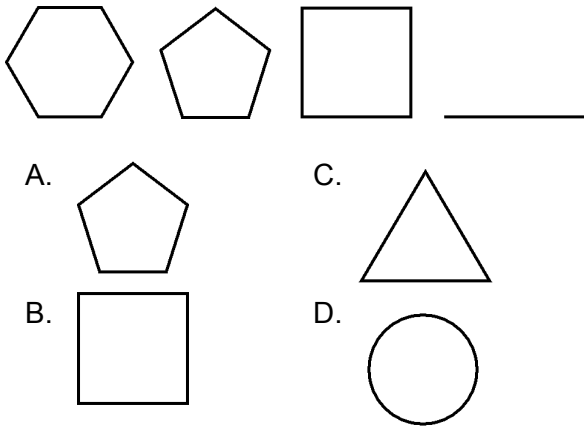Statistics and Probability

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.*
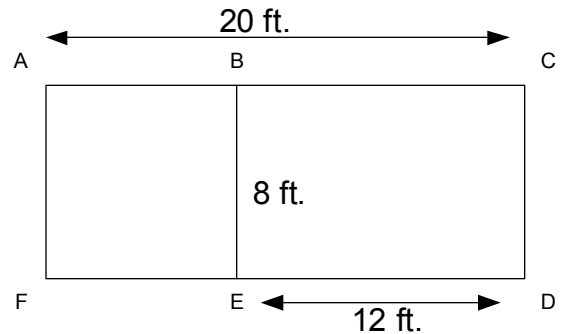
## 1

Which is the next shape in this pattern?

A.

B.

C.

D.

## 2

What is the missing number?

$$33 = (56 \div 7) \times 4 + \square$$

A. 21

B. 5

C. 3

D. 1

## 3

What is the perimeter of ABEF in the figure?

A. 16 ft.

B. 20 ft.

C. 32 ft.

D. 40 ft.

## 4

Which bus did Sandy take if she rode the bus from the library to the hospital for less than 30 minutes AND she got off before 4:15?

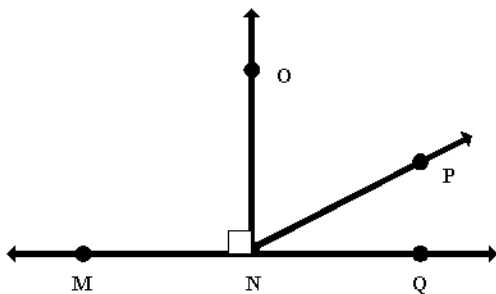| Bus Number | From Library | To Hospital |
|:---:|:---:|:---:|
| 1 | 3:10 | 3:35 |
| 2 | 3:30 | 4:02 |
| 3 | 3:50 | 4:15 |
| 4 | 4:10 | 4:32 |

A. 1

B. 2

C. 3

D. 4

# Mathematics ▼

## 5

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      C. 2b

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

## 6

Which line segment is perpendicular to line $\overline{MQ}$ ?



A. Line segment NP

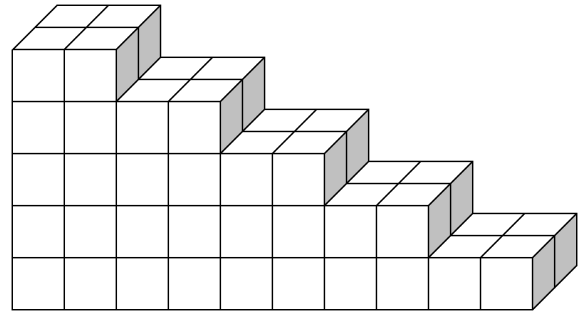B. Line segment NO

C. Line segment NQ

D. Line NP

## 7

Simplify the following expression:

$$9 + 7 \times 4 - 6 \div 3 - (12 - 5)$$

A. 11

B. 18

C. 28

D. 53

## 8

How many cubes are needed to make this solid figure?



A. 30      C. 50

B. 40      D. 60

## 9

There are 6 red, 4 green, and 2 blue marbles in a sack. If you reach in and pull out one marble, what is the probability it will be blue?

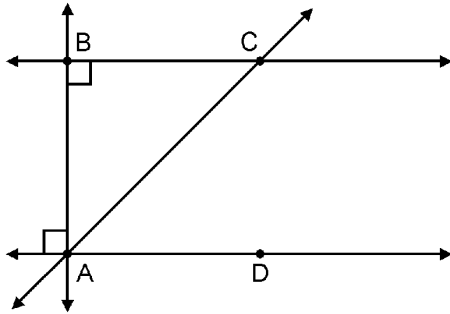A. $\dfrac{1}{6}$   B. $\dfrac{1}{3}$   C. $\dfrac{1}{2}$   D. 2

## 10

What number is missing?

*56, 44, 34, 26, ___, 16, 14*

A. 18

B. 20

C. 22

D. 24

## 11

Which of the following is not true about line AB and line BC?



A. They are perpendicular.

B. They form an acute angle.

C. They form a right angle.

D. They form a 90° angle.

## 12

Dailene has 30 CD's and buys 2 new ones every week.  Renae has 18 CD's and buys 4 new ones every week.  After how many weeks will Renae and Dailene have the same number of CD's?
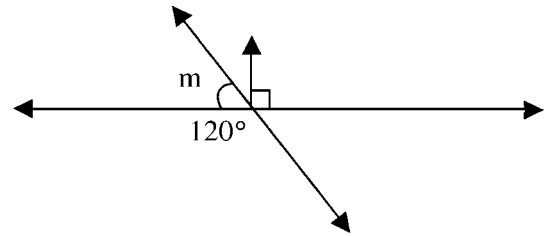
A. 3

B. 6

C. 8

D. Never

## 13

For his job working at a telephone company, Jeff has to talk to 42 people each day.  On average, only 7 out of the first 10 people answer the phone.  Using this information, predict how many people Jeff will need to call before talking to 42 people.

A. 49    B. 52    C. 60    D. 70

## 14

Find the measure of angle m:



A. 30°

B. 45°

C. 60°

D. 90°

## 15

What is the mean?

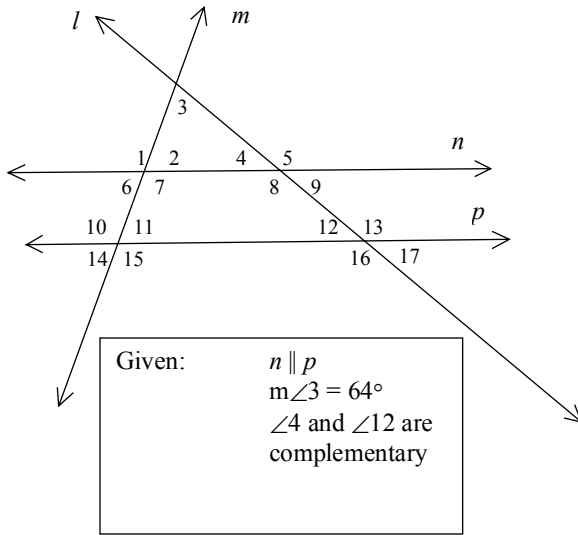| Price of Backpacks | | | | |
|---|---|---|---|---|
| $25 | $13 | $47 | $30 | $25 |

A. $25         C. $34

B. $28         D. $47

## 16

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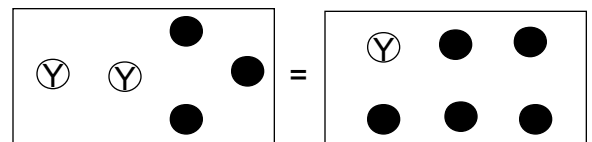


A. Y = 0 ●

B. Y = 1 ●

C. Y = 2 ●

D. Y = 3 ●

# Mathematics ▼

## 17
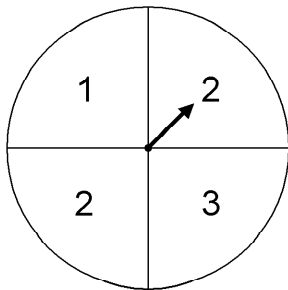


Given:
$n \parallel p$
$m\angle 3 = 64°$
$\angle 4$ and $\angle 12$ are complementary

The measure of $\angle 11$ equals

A. 45°

B. 58°

C. 71°

D. 109°

## 18

How many times is the spinner likely to land on a space for 2 in 20 spins?
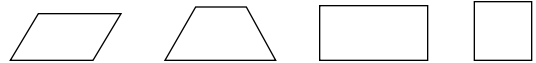


A. 2 times

B. 5 times

C. 10 times

D. 40 times

## 19

Mari's teacher put a red dot on 1, 4, 9, and 16 on a number line. The teacher asked Mari to continue the same pattern by putting 3 more dots on the same number line. Which number did Mari put the third dot on?

A. 23

B. 25

C. 36

D. 49

## 20



Each one of these figures is a:

A. parallelogram.
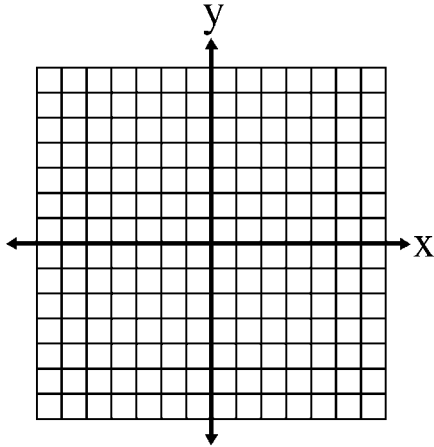
B. rectangle.

C. rhombus.

D. quadrilateral.

## 21

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

## 22



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

   A.  18 square units

   B.  21 square units

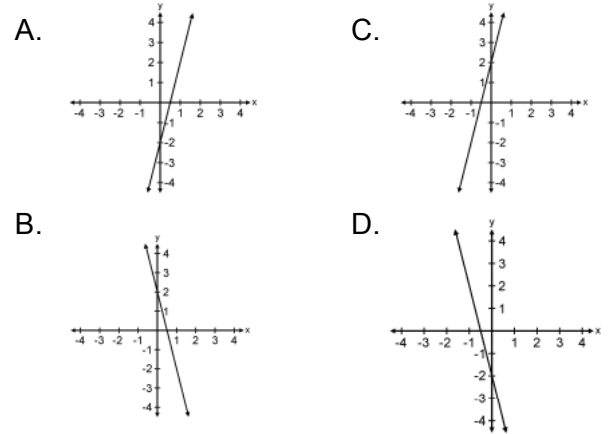   C.  24 square units

   D.  36 square units

## 23

A fair six-sided die is rolled 60 times.  About how many times would you **expect** to roll a "4"?

   A.   4
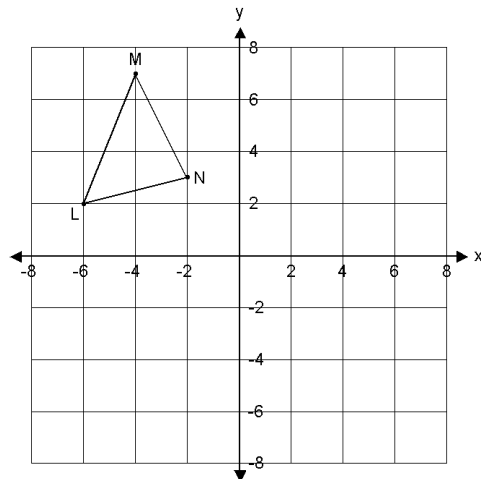
   B.  10

   C.  15

   D.  There is no way to tell.

## 24

Look at the table and select the graph that represents this algebraic relationship.

| x | y |
|----|----|
| -2 | 10 |
| -1 | 6 |
| 0 | 2 |
| 1 | -2 |
| 2 | -6 |

A.



C.



B.



D.



## 25



Triangle LMN is shifted 3 right and 3 down.  The new vertex M' is in which quadrant?

   A.  Quadrant I

   B.  Quadrant II

   C.  Quadrant III

   D.  Quadrant IV