VIRGINIA STANDARDS OF LEARNING

Spring 2010 Released Test

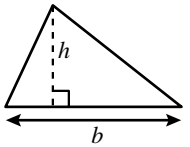
GRADE 6 MATHEMATICS

Form M0110, CORE 1

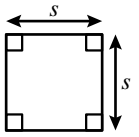
Property of the Virginia Department of Education

Grade 6 Mathematics Formula Sheet

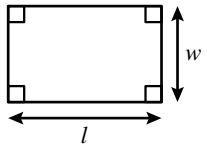
Geometric Formulas



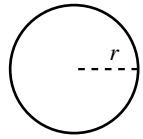
$A = \frac{1}{2}bh$



$p = 4s$
$A = s^2$



$p = 2l + 2w$
$A = lw$



$C = 2\pi r$
$A = \pi r^2$

Pi

$\pi \approx 3.14$

$\pi \approx \frac{22}{7}$

Abbreviations

milligram	mg
gram	g
kilogram	kg
milliliter	mL
liter	L
kiloliter	kL
millimeter	mm
centimeter	cm
meter	m
kilometer	km
square centimeter	cm^2
cubic centimeter	cm^3

ounce	oz
pound	lb
quart	qt
gallon	gal.
inch	in.
foot	ft
yard	yd
mile	mi.
square inch	sq in.
square foot	sq ft
cubic inch	cu in.
cubic foot	cu ft

area	*A*
perimeter	*p*
circumference	*C*

year	yr
month	mon
hour	hr
minute	min
second	sec

Directions

Read each question and choose the best answer.

SAMPLE

Which is less than 1.064?

A 1.159
B 1.059
C 1.171
D 1.071

1 Hayden has $20 to spend at the county fair. Admission to the fair is $5.00 per person, and tickets for food and games are $1.25 per ticket. What information is needed to calculate the amount of money that Hayden will have left after attending the fair?

A The number of prizes he won
B The number of hours he attended
C The number of tickets he purchased
D The number of miles the fair is from his house

2 Amy bought three CDs for $15.34, $17.57, and $10.29, including sales tax. She gave the clerk $50.00. Which is *closest* to the amount of change Amy should receive?

F $1.00
G $7.00
H $10.00
J $17.00

3 What is 11.25 divided by 0.5 ?

A 2,250
B 225
C 22.5
D 2.25

4 Donna and Darcy collected newspapers for recycling. Donna collected $5\frac{3}{4}$ pounds of newspaper. Darcy collected $2\frac{1}{4}$ pounds of newspaper. What was the total amount of newspaper they collected?

F $8\frac{1}{2}$ pounds

G 8 pounds

H $7\frac{1}{2}$ pounds

J 7 pounds

5 In her shopping cart, Jody has 2 pounds of oranges at $0.99 per pound, 3 cans of soup at $1.19 per can, and 1 gallon of ice cream at $3.79 per gallon. Which is closest to the total cost of the items in her shopping cart?

A $9.00

B $8.00

C $7.00

D $6.00

6 $0.008\overline{)0.64}$

F 8

G 80

H 800

J 8,000

7 **Which fraction is equivalent to $\frac{5}{6} \div \frac{1}{3}$?**

A $\frac{5}{18}$

B $\frac{2}{5}$

C $1\frac{1}{6}$

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

8 Look at the table.

Items Gwen Purchased

Item	Number of Items	Cost per Item
Sketchpad	5	$2.99
Paintbrush	2	$5.99
Box of chalk	1	$15.99

Which could be used to determine the total amount of money Gwen spent before tax?

F Multiply the cost per item by the number of items, then add the products

G Divide the cost per item by the number of items, then multiply the quotients

H Divide the cost per item by the number of items, then add the quotients

J Multiply the cost per item by the number of items, then multiply the products

9 Jasmine's recipe requires $\frac{2}{3}$ cup flour. She has only $\frac{1}{2}$ cup of flour in the pantry. How much more flour does she need?

A $\frac{7}{6}$ cups

B $\frac{3}{5}$ cup

C $\frac{1}{3}$ cup

D $\frac{1}{6}$ cup

10 The table shows the prices for CDs at 4 different stores.

CD Prices

Store	Number of CDs	Total Price
Budget Buy	4	$30.00
CD City	2	$15.99
Music Mall	3	$21.99
Shop Smart	1	$8.99

Which store has the lowest price per CD?

F Budget Buy
G CD City
H Music Mall
J Shop Smart

Do not turn the page until you are told.

11 A prime number can *best* be described as —

A a number with more than 2 different factors
B a number with exactly 2 different factors
C always an even number
D always an odd number

12 What is the greatest common factor of 18 and 33 ?

F 594
G 198
H 6
J 3

GO ON

13 Which decimals are ordered from *least* to *greatest*?

A 0.009, 0.8, 0.05, 1.0
B 0.009, 0.05, 0.8, 1.0
C 1.0, 0.05, 0.8, 0.009
D 1.0, 0.8, 0.05, 0.009

14 Which of the following is true?

F $^{-}16 = 16$
G $^{-}29 > 24$
H $^{-}47 < {}^{-}43$
J $^{-}70 < {}^{-}77$

15 Sam owns a canoe rental company with 120 boats. He has 55 wood boats, and the rest are fiberglass. What is the ratio of wood boats to fiberglass boats?

A 55:65
B 65:55
C 120:55
D 120:65

16 Which is a composite number?

F 49
G 47
H 37
J 29

17 Which percent is equivalent to $\frac{3}{5}$?

A 15%
B 20%
C 35%
D 60%

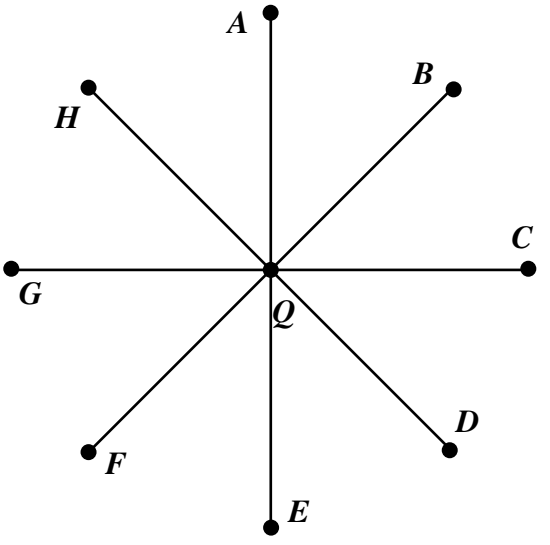
18 Which digit could be found in the ones place of an odd number?

F 0
G 1
H 2
J 4

19 Which is *closest* to the area of a classroom bulletin board?

A 2,000 square inches
B 2,000 square feet
C 2,000 cubic inches
D 2,000 cubic feet

20 Which angle has a measure *closest* to 90°?



F $\angle HQA$

G $\angle HQB$

H $\angle HQD$

J $\angle HQE$

21 How many ounces are equivalent to 25 pounds?

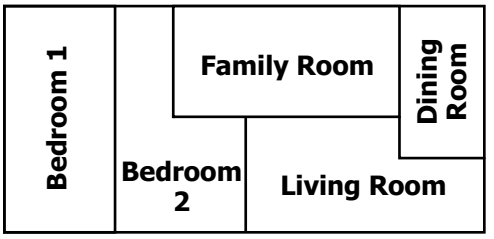
A 175 ounces

B 200 ounces

C 370 ounces

D 400 ounces

22 Nikki drew a sketch of the floor plan of her home.



Which two rooms in Nikki's sketch appear to be congruent?

F Bedroom 1 and Family Room
G Dining Room and Bedroom 1
H Living Room and Bedroom 2
J Living Room and Dining Room

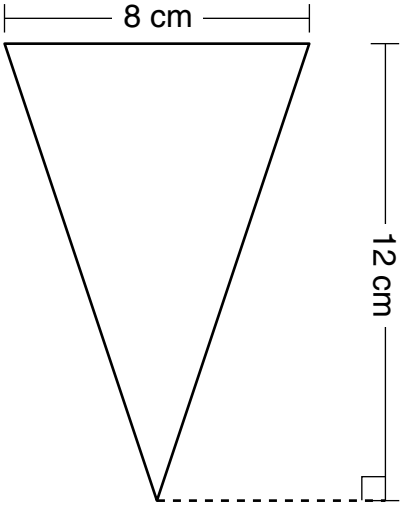
23 A wheel has a radius of 67.5 meters. Which is closest to the circumference of this wheel?

A 211.95 m
B 423.9 m
C 4,556.25 m
D 14,306.62 m

24 What is equivalent to 3 gallons?

F 3 quarts
G 4 quarts
H 6 quarts
J 12 quarts

25 What is the area of the triangle shown?



A 32 cm^2

B 40 cm^2

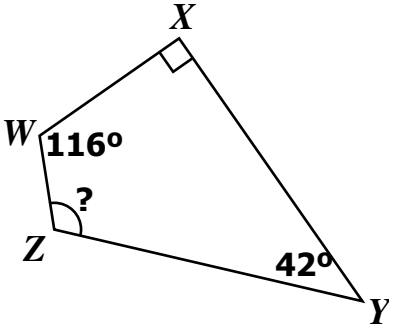
C 48 cm^2

D 96 cm^2

26 What number of feet equals 24 yards?

F 2
G 8
H 72
J 288

27 Three angle measures of quadrilateral $WXYZ$ are labeled in the figure.

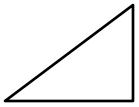


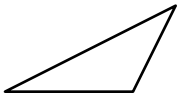
What is the measure of $\angle WZY$?

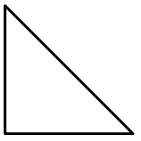
A 112°
B 158°
C 202°
D 248°

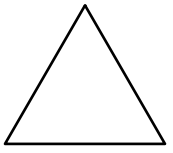
GO ON

28 Which triangle appears to have 3 congruent angles?

F 

G 

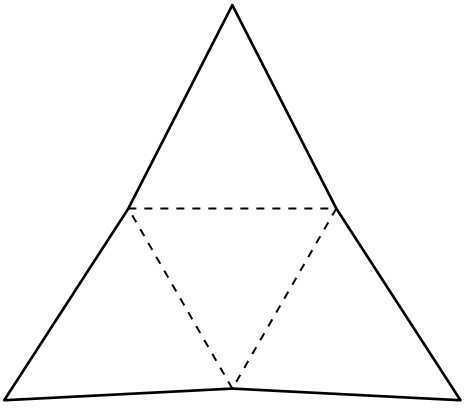
H 

J 

29 Which of the following shapes is *not* a parallelogram?

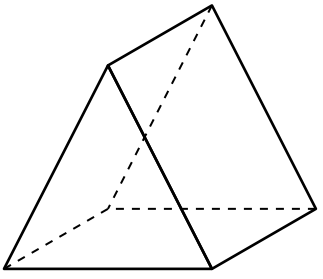
A Trapezoid
B Rectangle
C Rhombus
D Square

30 A net of a three-dimensional figure is shown below.

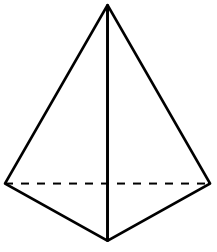


Which is *most likely* the figure?

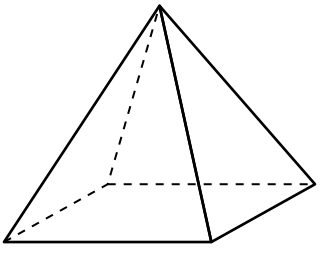
F



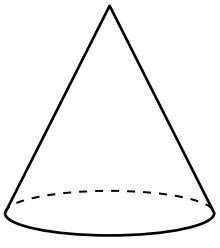
G



H



J



31 If a data set has an odd number of data and is in numerical order, then the middle value represents the —

A median
B range
C mean
D mode

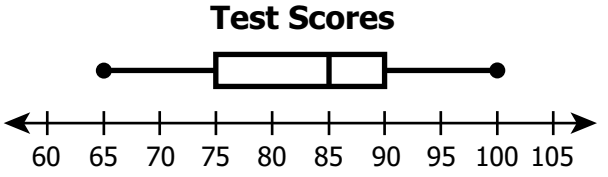
32 The first 200 visitors to a state park were asked about their favorite park activity. The results are shown in this circle graph.

Favorite State Park Activities

Which of the following is *closest* to the number of these 200 visitors who said hiking was their favorite activity?

F 25 visitors
G 40 visitors
H 50 visitors
J 75 visitors

33 This box-and-whisker plot displays information about the test scores for 25 students.



Based on the information in this box-and-whisker plot, which of the following statements is *true*?

A The highest score on the test is 90.

B The range of the test scores is 15.

C The median test score is 85.

D The mean test score is 85.

34 A bag contains 4 red, 5 green, 3 blue, and 6 yellow tiles of equal size and shape. One tile is randomly selected from the bag. What is the probability that the tile selected is blue?

F $\frac{5}{6}$

G $\frac{1}{3}$

H $\frac{1}{5}$

J $\frac{1}{6}$

35 Look at the table.

Tickets Sold

Day	Number Sold
Thursday	36
Friday	25
Saturday	18
Sunday	33

What is the mean of the number of tickets sold over these four days?

A 25
B 27
C 28
D 29

36 Mr. Murphy asked 24 of his students how many miles they live from the school. The stem-and-leaf plot shows the data.

Stem	Leaf
0	1 1 1 1 1 2 2 3 3 4 5 5 6 7 8
1	0 0 1 2 3 4 4
2	1 5

Key
2|1 = 21

Which of the following is a *true* conclusion based on the data in the stem-and-leaf plot?

F Five students live 1 mile from the school.
G Three students live 4 miles from the school.
H Exactly half the students live 7 or more miles from the school.
J The maximum distance a student lives from the school is 15 miles.

37 Andy is packing clothes for a camping trip.

Andy's Clothes

Shirts	Pants	Shoes
Blue	Shorts	Boots
Green	Jeans	Sandals

Based on the chart, which of the following shows all of Andy's possible clothing combinations of 1 color of shirt, 1 type of pants, and 1 type of shoes?

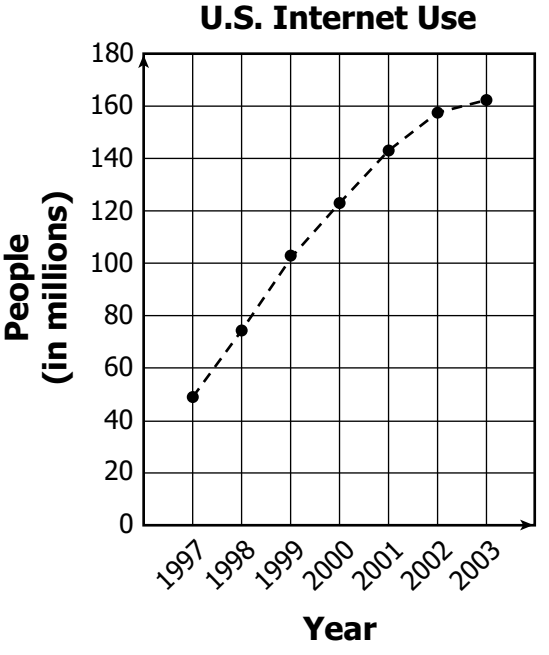
A
blue shirt, shorts, boots
blue shirt, shorts, sandals
blue shirt, jeans, boots
blue shirt, jeans, sandals
green shirt, shorts, boots
green shirt, shorts, sandals
green shirt, jeans, boots
green shirt, jeans, sandals

B
blue shirt, shorts, boots
blue shirt, jeans, sandals
green shirt, shorts, boots
green shirt, jeans, sandals

C
blue shirt, shorts, boots
blue shirt, shorts, sandals
blue shirt, jeans, boots
blue shirt, jeans, sandals
green shirt, shorts, boots
green shirt, jeans, boots
red shirt, shorts, sandals
red shirt, jeans, sandals

D
blue shirt, shorts, boots
green shirt, jeans, sandals

38 This graph shows the number of people who used the Internet each year in the United States from 1997 to 2003.



Based on the information in the graph, between which two years did the smallest increase occur?

F 1997 and 1998

G 1998 and 1999

H 2001 and 2002

J 2002 and 2003

39 What value of m makes this number sentence true?

$$m - 5 = 35$$

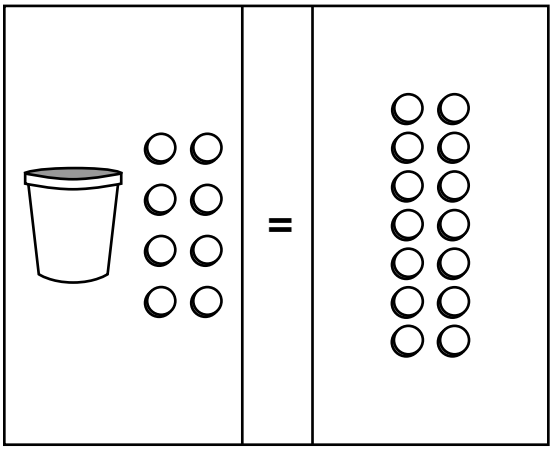
A 175
B 40
C 30
D 7

40 Which word describes the boxed number?

$$\boxed{8}\, x = y$$

F Term
G Variable
H Equation
J Coefficient

41 Based on the equation mat, what is the value for x ?



A 2
B 6
C 22
D 112

42 What is the solution to the following?

$$\frac{n}{6} = 36$$

F $n = 6$
G $n = 30$
H $n = 42$
J $n = 216$

43 If the arithmetic pattern shown continues, what will be the *8th* number?

54, 48, 42, 36, . . .

A 34
B 30
C 12
D 6

44 Which of the following numbers is *not* a perfect square?

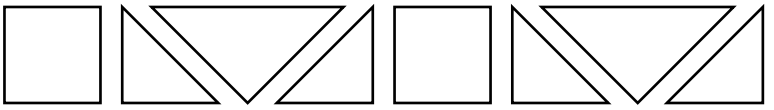
F 49
G 90
H 121
J 144

45 Which of the following is equivalent to $6 \times 6 \times 6 \times 6 \times 6$?

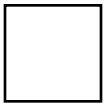
A 36^6
B 30^6
C 6^5
D 5^6

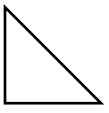
GO ON

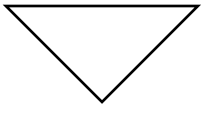
46 This pattern repeats after the first four shapes.

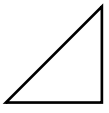


What should be the *11th* shape in this repeating pattern?

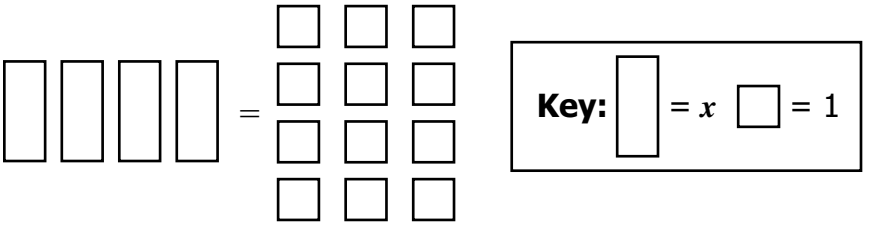
F 

G 

H 

J 

47 What number sentence is modeled by the shapes shown?



A $x + 4 = 12$
B $4x = 12$
C $4x = 3$
D $x = 9$

48 What is the *10th* term in the increasing pattern shown?

1, 1, 2, 3, 5, 8, 13

F 144
G 89
H 55
J 34

49 Which could be the rule for the following pattern?

1,000 100 10 1 0.1 0.01

A Divide the previous number by 10.
B Multiply the previous number by 10.
C Subtract 900 from the previous number.
D Add 0.09 to the previous number.

50 Which of these is the variable in the number sentence $4x + 3 = 8$?

F 4
G 3
H $+$
J x

STOP