Mathematics Concepts and Problem Solving

Lesson 4a Mathematics Concepts

Directions: Read each problem. Then choose the answer you think is best. Mark the space for your answer.

Sample A What is the area of a rectangle with dimensions 8 meters by 4 meters?

A 32 square meters
B 36 square meters
C 48 square meters
D 84 square meters

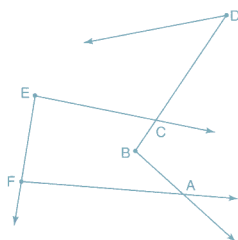**Sample B** Which number of students can share 54 sheets of writing paper with no sheets of paper left over?

A 4
B 5
C 7
D 9

TIPS

If an item is difficult, read the problem, look at the answer choices, then read the problem again.

1 Which represents a line segment that is drawn and labeled in the figure?

A $\overline{AC}$
B $\overline{EC}$
C $\overline{BF}$
D $\overline{CF}$

2 For a science experiment, Lona put a sheet divided equally into 9 parts on the lawn. What is the probability that a grasshopper will land on a number greater than 7?

1	2	3
4	5	6
7	8	9

A $\frac{7}{9}$
B $\frac{2}{7}$
C $\frac{2}{9}$
D $\frac{1}{7}$

GO

3 When Cullen plays basketball, he usually makes 5 free throws of every 9 he tries. If he tries 27 free throws, how many should he expect to make?

A   9
B   14
C   15
D   23

4 The population of the United States in 1980 was 226,545,805. What is that number rounded to the nearest million?

A   300,000,000
B   230,000,000
C   227,000,000
D   220,000,000

5 8107 ÷ 22 is between —

A   400 and 500
B   300 and 400
C   40 and 50
D   30 and 40

6 In a display in the produce section of a market, fruit was lined up in this pattern: apple, pear, orange, and then the pattern was repeated several times. What was the tenth shape in the pattern?

A   Apple
B   Pear
C   Orange
D   It can't be determined.

7 The sum of the three numerals in Sabina's street address is the same as her age. Her age is between 11 and 16. Which of these could be in Sabina's address?

A   974
B   512
C   453
D   379

8 If $n = 3$, then $n + 9 =$

A   6
B   12
C   27
D   39

GO

9 The length of a dollar bill would be closest to —

A   1 inch
* B   6 inches
C   1 foot
D   6 feet

10

Carlos drew this map to show his friends where he lives. Which street is parallel to Main Street?

A   Park St.
B   North St.
C   Gravity St.
* D   Court St.

11 Which would be a possible remainder when a whole number less than 50 is divided by 6?

* A   5
B   6
C   7
D   8

12 A watering can holds 8 pints of water. How many quarts is that?

A   2
* B   4
C   16
D   32

13 Which fraction is equivalent to $\frac{12}{36}$?

A $\frac{1}{2}$
B $\frac{36}{12}$
C $\frac{2}{3}$
* D $\frac{1}{3}$

14 Four children measured their height. Their heights in meters were 1.21, 1.12, 1.19, and 1.08. What was the height of the tallest student?

* A   1.21 meters
B   1.12 meters
C   1.19 meters
D   1.08 meters

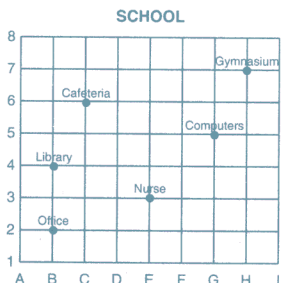**15** Which vowel (a, e, i, o, u) occurs most frequently in the sentence below?

The basketball team studies for an hour before practice.

A   a
* B   e
C   i
D   u

GO

16

Use this grid of a school to answer question 16.

SCHOOL

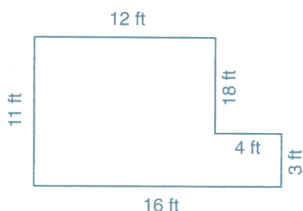The principal is going to put a video studio at C4. Which will it be closest to?

A   Library
B   Computers
C   Nurse
D   Cafeteria

17

Which unit would probably be used to measure the distance between two cities?

A   Liter
B   Centimeter
C   Kilometer
D   Milliliter

18

Deepak drew this picture of his room. What is the perimeter of the room?

A   54 ft
B   64 ft
C   66 ft
D   176 ft

19

7,000,700 =

A   7000 + 7000
B   7,000,000 + 700
C   7,000,000 + 7
D   7,000,000 + 7000

20

What number goes in the ☐ to make the number sentence true?

$(43 + 79) + 65 = 43 + (☐ + 65)$

A   108
B   65
C   43
D   79

21

Lakata and her family are thinking about buying one of four cars: the Fairmount ($16,893), the Comfort ($16,904), the Catalina ($16,599), and the Royal ($16,620). Which is the least expensive?

A   Fairmount
B   Comfort
C   Catalina
D   Royal

22

Which number can be divided by 25 with none left over?

A   95
B   135
C   150
D   165

STOP