The University of the State of New York

REGENTS COMPETENCY TEST

MATHEMATICS

Monday, June 17, 1985 — 9:15 a.m.

The questions on this test measure your computational skills, your knowledge of mathematical concepts, and your ability to solve mathematical problems. Your answers to these questions must be recorded on the separate answer sheet. Use only a black lead pencil on your answer sheet.

When you have completed the test, you must sign the declaration which states that you did not see any of the questions or answers before taking this test and that you have neither given nor received help in answering any of the questions during the test. Your answer sheet cannot be accepted if you fail to sign this declaration.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.

DIRECTIONS TO STUDENTS

This test has two parts: Part A and Part B. In Part A there are twenty completion questions for which you are to give the answers. In Part B there are forty multiple-choice questions for which you are to choose the correct answer from among the four choices given.

Read the sample question for Part A shown below.

Part A Sample Question

I Add: 435
147
+223

The correct answer is **805**. On the separate answer sheet, in the section titled "PART A," look at the box showing the answer to Sample Question I. Notice how the answer **805** has been written on the line provided. In the same way, write your answer to each of the questions in Part A on the answer line for that question. If you want to change an answer, erase your first answer. Then write the answer you want.

Now look at the sample question for Part B shown below.

Part B Sample Question

II Which number represents forty thousand two hundred?

(a) 4,020
(b) 40,020
(c) 40,200
(d) 42,000

The correct answer is **40,200**, which is next to letter c. On the separate answer sheet, in the section titled "PART B," look at the box showing the row of answer circles for Sample Question II. Since letter c is the correct answer for Sample Question II, the circle for letter c has been filled in. For each question in Part B, decide which of the four choices given is the correct answer. Then, on the answer sheet, in the row of circles for that question, fill in the circle that has the same letter as the answer you have chosen. Mark only one answer for each question. If you want to change an answer, be sure to erase your first mark completely. Then mark the answer you want.

When you are told to start working, turn the page and begin with question 1. Work carefully and answer all the questions. Your score will be the number of questions you answer correctly. You may use scrap paper and the blank spaces of this test booklet to work out the answers to the questions, but be sure to mark all your answers on the separate answer sheet.

Part A

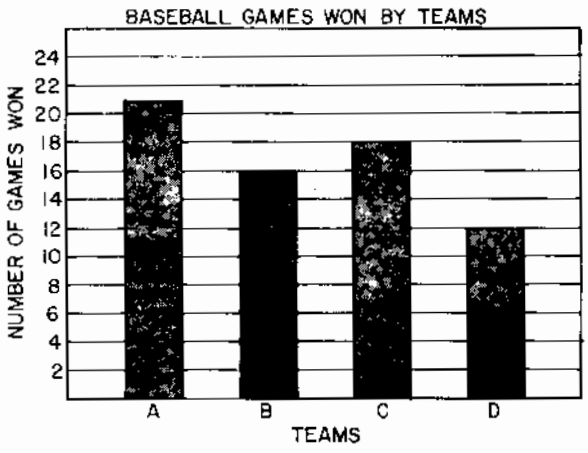
Answer all 20 questions in this part. Write your answers on the lines provided in PART A on the separate answer sheet. Use only a black lead pencil on the answer sheet.

1 Add:

$$\begin{array}{r} 7107 \\ 1710 \\ +\ 771 \\ \hline \end{array}$$

2 Write a numeral for seven thousand eight.

3 The graph below shows the number of baseball games won by four teams during a baseball season. How many more games were won by Team A than Team C?



4 Subtract 852 from 9001.

5 Add: $1.07 + 32.3$

6 Subtract:

$$\begin{array}{r} 82.30 \\ 1.94 \\ \hline \end{array}$$

7 Change $7\frac{2}{5}$ to an improper fraction.

8 Divide: $4\overline{)15.6}$

9 Multiply: $\frac{2}{5} \times \frac{3}{7}$

10 Pens are on sale for 35 cents each. Jim has $2. What is the greatest number of pens he can buy?

11 Divide: $49\overline{)3969}$

12 Write 8% as a decimal.

13 Multiply:
$$\begin{array}{r} 738 \\ \times\ 96 \\ \hline \end{array}$$

14 Find the mean (average) of 95, 73, 98, 86, and 73.

15 Multiply:
$$\begin{array}{r} 1.35 \\ \times\ 3.2 \\ \hline \end{array}$$

16 The circumference of a circle can be found by using the formula $C = \pi d$. How many centimeters are in the circumference of a circle with a diameter of 20 centimeters? (Use $\pi = 3.14$)

17 Solve for x: $2x + 3 = 11$

18 What is $\frac{2}{3}$ of 24?

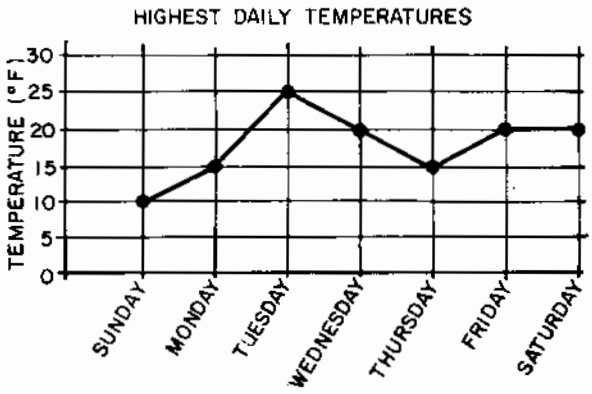
19 Write the fraction $\frac{12}{18}$ in lowest terms.

20 Multiply: -9×-7

Part B

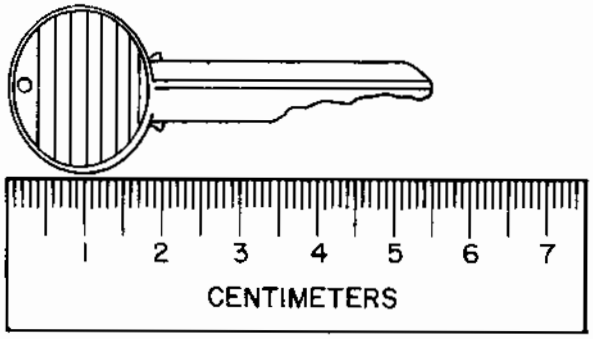
Answer all 40 questions in this part. Mark your answers in the rows of answer circles provided in PART B on the separate answer sheet. Use only a black lead pencil on the answer sheet.

21 The graph below shows the highest temperatures in Buffalo for one week in January. Between which two days was there an increase of exactly 10 degrees?



(a) Monday and Tuesday
(b) Tuesday and Wednesday
(c) Thursday and Friday
(d) Friday and Saturday

22 How many centimeters long is the key shown in the drawing below?

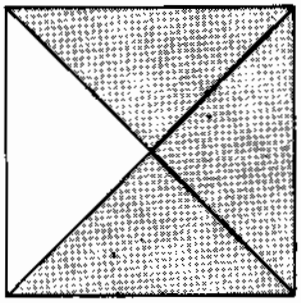


(a) 5 cm
(b) 5.5 cm
(c) 6 cm
(d) 55 cm

23 If the price of socks is 3 pairs of socks for \$2.69, what is the price of one pair of socks?

(a) \$.90
(b) \$2.66
(c) \$2.72
(d) \$8.07

24 What percent of the square below is shaded?



(a) 25%
(b) 50%
(c) 75%
(d) 90%

25 Carol paid \$25.98 for a skirt and \$15.00 for a blouse. If she gave the sales clerk fifty dollars, what change should she have received?

(a) \$8.98
(b) \$9.02
(c) \$10.02
(d) \$10.98

26 What is the greatest common factor of 8 and 12?

(a) 8 (c) 12
(b) 2 (d) 4

27 What is the value of $25 - (9 - 4)$?

(a) 12 (c) 30
(b) 20 (d) 38

28 Maria earns \$3.70 per hour. If she earned \$129.50, how many hours did she work?

(a) 30 hours (c) 36 hours
(b) 35 hours (d) 40 hours

29 Solve for x: $\frac{5}{9} = \frac{x}{45}$

(a) 5 (c) 25
(b) 9 (d) 225

30 If there is a 6% sales tax, what is the amount of tax on a purchase of \$70?

(a) \$74.20 (c) \$6.00
(b) \$42.00 (d) \$4.20

31 What is the value of 4^3?

(a) 7 (c) 64
(b) 12 (d) 256

32 Which is equal to $5\frac{1}{4}$?

(a) 5.025 (c) 5.25
(b) 5.14 (d) 5.41

33 Donna had a balance of \$243.69 in her checking account. If she made a deposit of \$35.00 and then wrote a check for \$42.50, how much was left in her checking account?

(a) \$321.19 (c) \$236.19
(b) \$251.19 (d) \$166.19

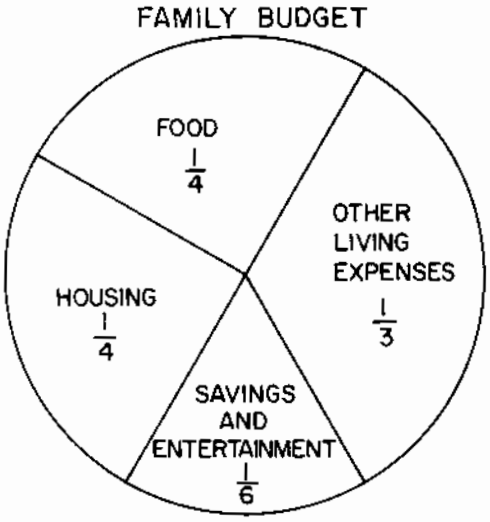
34 What is 8,649 rounded to the *nearest hundred*?

(a) 8,000 (c) 8,700
(b) 8,600 (d) 9,000

35 On a map, 1 centimeter represents 10 kilometers. If the actual distance between two towns is 30 kilometers, how far apart are they on the map?

(a) 300 cm (c) 3 cm
(b) 30 cm (d) .3 cm

36 The circle graph below shows how a family budgets its annual income. If the annual income of a family is \$24,000, how much is spent for food?



(a) \$8,000
(b) \$6,000
(c) \$5,000
(d) \$4,000

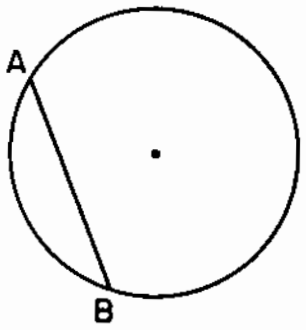
37 A bus left Albany at 10:40 a.m. It arrived in New York City 2 hours 50 minutes later. At what time did it arrive?

(a) 1:30 a.m.
(b) 1:30 p.m.
(c) 1:50 p.m.
(d) 12:50 p.m.

38 What is the least common denominator of the fractions $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{5}$?

(a) 6
(b) 10
(c) 15
(d) 30

39 In the circle below, what is line segment AB?



(a) a radius
(b) a diameter
(c) a perimeter
(d) a chord

40 Dennis saves 20% of his allowance each week. If he receives a weekly allowance of \$8.00, how much does he save each week?

(a) \$.16
(b) \$.20
(c) \$1.60
(d) \$4.00

41 Which group of fractions is arranged in order from smallest to largest?

(a) $\frac{2}{9}, \frac{2}{7}, \frac{2}{5}, \frac{2}{3}$
(b) $\frac{2}{7}, \frac{2}{5}, \frac{2}{3}, \frac{2}{9}$
(c) $\frac{2}{9}, \frac{2}{5}, \frac{2}{7}, \frac{2}{3}$
(d) $\frac{2}{3}, \frac{2}{7}, \frac{2}{5}, \frac{2}{9}$

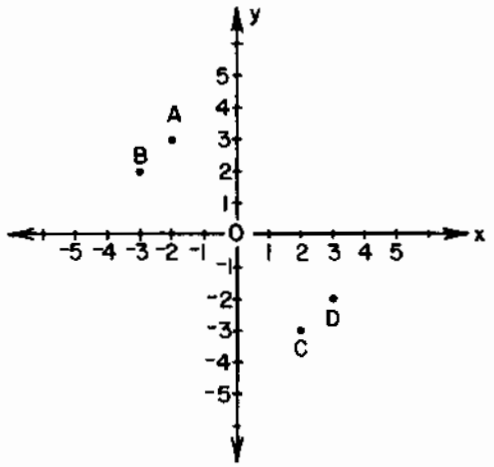
42 When 79.52 is divided by 100, the quotient is

(a) 0.07952
(b) 0.7952
(c) 7.952
(d) 7952

43 Chris bought a computer with $100 as a downpayment and 16 monthly payments of $25 each. What was the total cost of the computer?

(a) $125
(b) $141
(c) $400
(d) $500

44 On the graph below, which point has the coordinates (−3,2)?



(a) *A*
(b) *B*
(c) *C*
(d) *D*

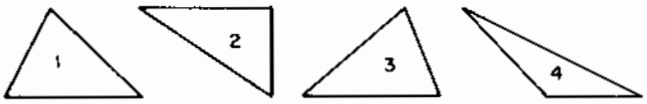
45 Al has five pennies in his pocket. The dates on them are 1980, 1981, 1981, 1982, and 1983. If Al picks one penny without looking, what is the probability that he will choose one dated 1981?

(a) $\frac{2}{3}$
(b) $\frac{1}{5}$
(c) $\frac{2}{5}$
(d) $\frac{1}{1981}$

46 During one week, the highest daily temperatures in degrees Fahrenheit were 100°, 97°, 97°, 99°, 98°, 97°, and 98°. What was the mode of the temperatures?

(a) 97°F
(b) 98°F
(c) 99°F
(d) 100°F

47 Which figure best represents an obtuse triangle?



(a) 1
(b) 2
(c) 3
(d) 4

48 The local school tax is $123.30 per thousand dollars of assessed value. How much tax must be paid on a property with an assessed value of $7,000?

(a) $863.10
(b) $5,136.90
(c) $7,123.30
(d) $7,863.10

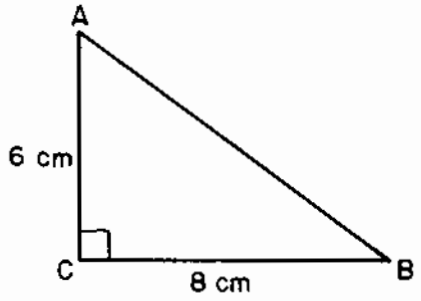
49 A stereo is on sale for 15% off the regular price. If the regular price is $179, how much can be saved by buying it on sale?

(a) $17.90
(b) $26.85
(c) $35.80
(d) $152.15

50 What is 100% of 62?

(a) 62
(b) 602
(c) 620
(d) 6200

51 In the right triangle below, $AC = 6$ centimeters and $CB = 8$ centimeters. What is the length of $\overline{AB}$?

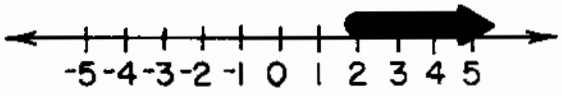


(a) 6 cm
(b) 8 cm
(c) 10 cm
(d) 14 cm

52 In a triangle, one angle measures 70° and a second angle measures 80°. What is the measure of the third angle of the triangle?

(a) 30°
(b) 50°
(c) 60°
(d) 210°

53 Which inequality is represented by the graph below?



(a) $x \leq 0$
(b) $x \geq 0$
(c) $x \leq 2$
(d) $x \geq 2$

54 The length of each side of a square is 8 centimeters. How many centimeters are in the perimeter of the square?

(a) 8
(b) 16
(c) 32
(d) 64

55 A high school softball team won 21 of the 35 games that it played. What percent of the games did the team win?

(a) $16\frac{2}{3}\%$
(b) 21%
(c) 37.5%
(d) 60%

56 Which is equivalent to 15,000 meters?

(a) 15 km
(b) 15 mm
(c) 1.5 m
(d) 1.5 cm

57 What is the value of $7 \div 1\frac{1}{4}$?

(a) $\frac{5}{28}$
(b) $\frac{4}{35}$
(c) $5\frac{3}{5}$
(d) $8\frac{3}{4}$

58 Which is a composite number?

(a) 19
(b) 29
(c) 49
(d) 59

59 Which sentence represents the statement below?

If 6 is subtracted from 21, the result is greater than 14.

(a) $6 - 21 > 14$
(b) $6 - 21 < 14$
(c) $21 - 6 < 14$
(d) $21 - 6 > 14$

60 The value of 9.9×299.8 is closest to

(a) 300
(b) 3,000
(c) 9,000
(d) 30,000