

The University of the State of New York  
REGENTS COMPETENCY TEST

# MATHEMATICS

Monday, June 18, 1984 — 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.**

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## 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

$$\begin{array}{r} \text{I Add: } 435 \\ 147 \\ +223 \\ \hline \end{array}$$

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  | (c) 40,200 |
| (b) 40,020 | (d) 42,000 |

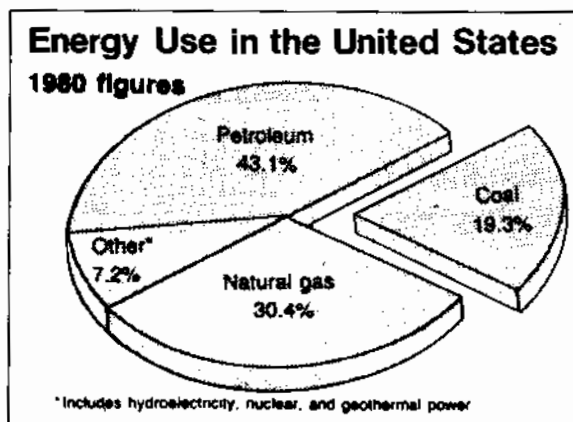
The correct answer is **40,200**, which is next to letter c. On the separate answer sheet, in the section titled "PART B," look at the box showing the row of answer circles for Sample Question II. Since letter c is the correct answer for Sample Question II, the circle for letter c has been filled in. 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 The graph below shows 1980 Energy Use in the United States. Which type of energy accounted for 30.4% of the energy use?



- 5 From 648 subtract 563.

- 6 Divide:  $6 \overline{)60.72}$

- 7 Multiply:  $\begin{array}{r} 85 \\ \times 47 \\ \hline \end{array}$

- 2 Add:  $795 + 215 + 201$

- 8 Find the mean (average) of 13, 17, 20, and 26.

- 3 Clara works in a library. Yesterday, she loaned 147 books and today she loaned 76 books. What is the total number of books she loaned in these two days?

- 9 Multiply:  $2.5 \times 0.4$

- 4 Add:  $6.5 + 3.82 + 0.27$

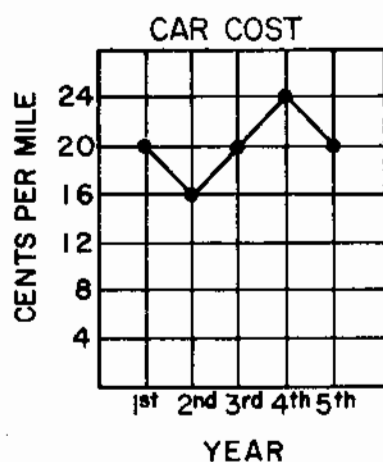
- 10 What is the value of  $7^2$ ?

11 Divide: $43 \overline{)1161}$	16 From $\frac{1}{2}$ subtract $\frac{1}{4}$ .
12 Add: $-9 + 3$	17 Multiply: $(-13) \times (-8)$
13 What is the least common multiple of 2, 3, and 4?	18 What is the mode of the following group of numbers? 40, 45, 90, 45, 40, 40
14 Multiply: $\frac{2}{11} \times \frac{6}{7}$	19 Solve for $x$ : $4x - 2 = 22$
15 A certain type of bus can hold no more than 50 students. How many of these buses are needed to carry 220 students on a trip?	20 A pizza has 12 slices. If Stanley ate $\frac{3}{4}$ of the slices of the pizza, how many slices did he eat?

## 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 cost per mile of running a standard size car in its first five years. In what year was the cost per mile the *least* expensive?



- (a) 1st  
(b) 2nd  
(c) 5th  
(d) 4th
- 22 Daryl bought an album that cost \$7.89. If he gave the cashier a \$20 bill, how much change should he have received?

- (a) \$12.11  
(b) \$12.89  
(c) \$13.21  
(d) \$13.89

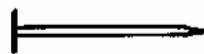
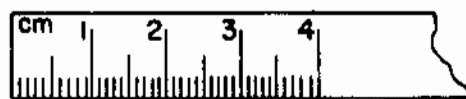
- 23 Which is *not* a prime number?

- (a) 9  
(b) 7  
(c) 3  
(d) 5

- 24 Which represents 73% written as a decimal?

- (a) 1.00  
(b) 73  
(c) 7.3  
(d) 0.73

- 25 What is the length of the nail shown in the diagram below?



- (a) 0.25 cm  
(b) 2 cm  
(c) 2.5 cm  
(d) 25 cm

- 26 Subtract 2.8 from 6.75.

- (a) 3.95  
(b) 4.95  
(c) 6.47  
(d) 6.57

- 27 John has \$211.21 in his checking account. If he makes deposits of \$100.01 and \$99.30, what will be the total amount of money in his account?

- (a) \$310.51  
(b) \$311.22  
(c) \$400.52  
(d) \$410.52

28 Which is a numeral for thirteen thousandths?

- (a) 0.013                      (c) 0.13  
(b) 1.3                         (d) 1013

29 What is 25,648 rounded to the nearest thousand?

- (a) 20,000                      (c) 26,000  
(b) 25,000                      (d) 30,000

30 Solve for  $x$ :  $\frac{4}{9} = \frac{x}{63}$

- (a) 7                              (c) 36  
(b) 28                            (d) 252

31 Vincent bought a television for \$500 with a downpayment of \$80 and a payment of \$60 each month. How many months will it take him to fully pay for the television?

- (a) 7                              (c) 3  
(b) 10                            (d) 4

32 What is the perimeter of a square whose side measures 16 centimeters?

- (a) 32 cm                      (c) 128 cm  
(b) 64 cm                      (d) 256 cm

33 Mary Jo worked 40 hours last week and earned \$3.60 per hour. She had the following deductions taken from her paycheck: \$11.30 for Federal income tax; \$5.20 for State income tax; and \$8.20 for social security. How much money did Mary Jo receive after these deductions?

- (a) \$24.70                      (c) \$144.00  
(b) \$119.30                      (d) \$168.70

34 A parallelogram has a base of 6 centimeters and a height of 5 centimeters. What is its area?

- (a) 30 cm<sup>2</sup>                      (c) 15 cm<sup>2</sup>  
(b) 22 cm<sup>2</sup>                      (d) 11 cm<sup>2</sup>

35 Which number equals  $\sqrt{36}$ ?

- (a) 6                              (c) 12  
(b) 9                              (d) 18

36 A doorway is usually about how wide?

- (a) 1 kilometer  
(b) 1 meter  
(c) 1 centimeter  
(d) 1 millimeter

37 Divide:  $\frac{2}{5} \div \frac{1}{2}$

- (a)  $\frac{2}{10}$  (c)  $\frac{4}{5}$   
(b)  $\frac{10}{2}$  (d)  $\frac{5}{4}$

38 A car travels at a rate of 40 kilometers per hour. What is the total number of kilometers that it will travel in  $4\frac{1}{2}$  hours?

- (a) 90 (c) 162  
(b) 160 (d) 180

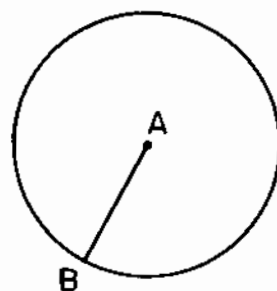
39 On a map, 1 centimeter represents 30 kilometers. How many centimeters represent 120 kilometers?

- (a) 3,600 (c) 40  
(b) 90 (d) 4

40 Which has the *least* value?

- (a) -2 (c) -7  
(b) +2 (d) +7

41 In circle A below, which word refers to line segment AB?



- (a) diameter (c) chord  
(b) circumference (d) radius

42 A farmer bought four chickens for a total of \$9.00 and then sold them for \$3.00 each. What was the farmer's profit?

- (a) \$6.00 (c) \$3.00  
(b) \$9.00 (d) \$12.00

43 Which is the number 40,000,000 written in scientific notation?

- (a)  $4 \times 10^7$  (c)  $10 \times 4^7$   
(b)  $40 \times 10^7$  (d)  $7 \times 4^{10}$

44 Expressed as a fraction in lowest terms,  $\frac{30}{48}$  is equal to

- (a)  $\frac{5}{6}$  (c)  $\frac{15}{24}$   
(b)  $\frac{5}{8}$  (d)  $\frac{10}{16}$



45 Which decimal has the *smallest* value?

- (a) 0.5                      (c) 0.05  
(b) 0.55                    (d) 0.005

46 Mr. Endara began work at 8:30 a.m. and finished at 4:00 p.m. How many hours did he work?

- (a)  $4\frac{1}{2}$                       (c)  $8\frac{1}{2}$   
(b)  $7\frac{1}{2}$                       (d)  $12\frac{1}{2}$

47 Seven cards, each containing one of the letters in the word "ALABAMA," are placed in a box. If one card is chosen at random, what is the probability that the card chosen will be an "A"?

- (a)  $\frac{1}{7}$                           (c)  $\frac{4}{7}$   
(b)  $\frac{1}{4}$                           (d)  $\frac{3}{7}$

48 Wanda pays \$1.80 per \$1,000 worth of insurance each year. What is her yearly premium if she has \$25,000 worth of insurance?

- (a) \$4.50                    (c) \$45.00  
(b) \$11.25                  (d) \$112.50

49 The expression  $(9 \times 6) + (9 \times 4)$  is equal to

- (a)  $9 \times (6 + 4)$   
(b)  $(9 + 9) \times 10$   
(c)  $18 \times (6 \times 4)$   
(d)  $81 \times (6 + 4)$

50 What is the tax on a baseball mitt marked \$24.99, if the sales tax rate is 7%?

- (a) \$17.49                  (c) \$1.70  
(b) \$1.75                  (d) \$1.48

51 Two angles of a triangle measure  $50^\circ$  and  $70^\circ$ . What is the measure of the third angle of the triangle?

- (a)  $30^\circ$                       (c)  $120^\circ$   
(b)  $60^\circ$                       (d)  $240^\circ$

52 Ten is 25% of what number?

- (a) 2.5                        (c) 25  
(b) 10                        (d) 40

53 Joe is 1.8 meters tall. How many centimeters tall is he?

- (a) 0.018 cm              (c) 180 cm  
(b) 18 cm                  (d) 1800 cm

- 54 According to the chart below, what is the minimum monthly payment that must be made on a charge account with a balance of \$280.50?

Charge Balance	Minimum Monthly Payment
\$ 11.00 or less	Balance
11.01—100	\$10
100.01—200	15
200.01—250	20
250.01—300	25
300.01—400	30
400.01—450	35
450.01—500	40
over \$500	$\frac{1}{10}$ Balance

- (a) \$25.00 (c) \$300.00  
(b) \$250.01 (d) \$305.50

56 Add:  $\frac{3}{4} + \frac{2}{3}$

- (a)  $\frac{5}{7}$  (c)  $\frac{5}{12}$   
(b)  $\frac{6}{7}$  (d)  $\frac{17}{12}$

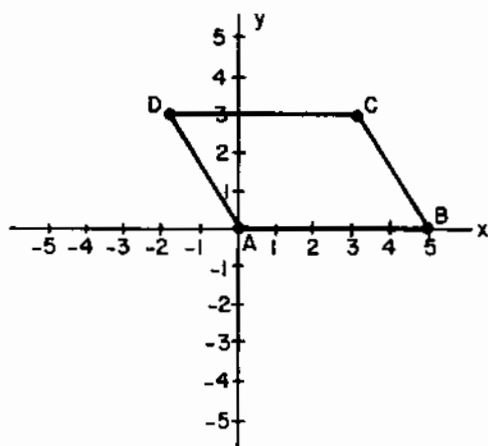
- 57 A jacket priced at \$34 is on sale at 20% off. What is the sale price of the jacket?

- (a) \$27.20 (c) \$28.20  
(b) \$27.80 (d) \$28.80

- 58 Terry correctly answered 42 out of 60 questions on a test. What percent of the questions were answered correctly?

- (a) 1.43 (c) 25.20  
(b) 18 (d) 70

- 55 In the graph below, what are the coordinates of point D?



- (a) (-3, 2) (c) (3, -2)  
(b) (-2, 3) (d) (2, -3)

- 59 A bank offers 12% interest on savings accounts that are larger than \$10,000. If Mrs. Lopez opens an account of \$20,000, how much interest will she receive at the end of the year?

- (a) \$240 (c) \$2,400  
(b) \$1,200 (d) \$24,000

- 60 The area of a circle is found by using the formula  $A = \pi r^2$ . What is the area of a circle whose radius is 6 meters? [Use  $\pi = 3.14$ ]

- (a) 9.42 m<sup>2</sup> (c) 37.67 m<sup>2</sup>  
(b) 18.84 m<sup>2</sup> (d) 113.04 m<sup>2</sup>