

The University of the State of New York  
REGENTS COMPETENCY TEST

# MATHEMATICS

Tuesday, June 21, 1983 — 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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THE STATE EDUCATION DEPARTMENT  
ALBANY, NEW YORK 12234

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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 Add:

$$\begin{array}{r} 547 \\ 56 \\ + 371 \\ \hline \end{array}$$

7 Multiply:

$$\frac{4}{5} \times \frac{3}{7}$$

2 Write the numeral for thirty thousand two hundred four.

8 Multiply:

$$\begin{array}{r} 6.2 \\ \times .3 \\ \hline \end{array}$$

3 Add:  $6.4 + 5.28$

9 Divide:  $23 \overline{)1449}$

4 Multiply:

$$\begin{array}{r} 716 \\ \times 25 \\ \hline \end{array}$$

10 Subtract 2.8 from 10.04.

5 Subtract:

$$\begin{array}{r} 2007 \\ - 986 \\ \hline \end{array}$$

11 Add:  $-7$  and  $5$

6 Round 7,927 to the nearest thousand.

12 What is the average (mean) of 92, 81, 87, 83, and 82?

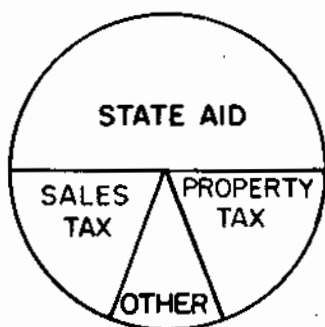
13 Divide  $-8$  by  $2$ .

14 Divide:  $3.22 \div 0.7$

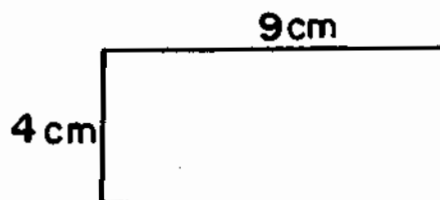
15 Solve for  $x$ :  $3x - 2 = 22$

16 Given the formula  $c = 6p$ .  
If  $p = 3$ , what is the value of  $c$ ?

17 The graph below shows the sources of income of Modern City. From which source does Modern City receive approximately 50% of its income?



18 The rectangle below has a length of 9 centimeters and a width of 4 centimeters. What is the number of square centimeters in the area of the rectangle?



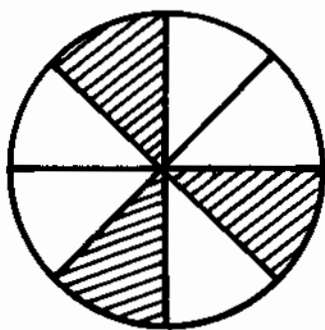
19 What is  $\frac{3}{4}$  of 32?

20 Find 40% of 70.

### 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 Which fractional part of the figure below is shaded?

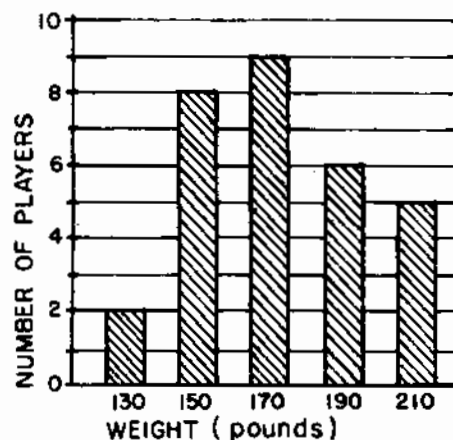


- (a)  $\frac{1}{8}$  (c)  $\frac{5}{8}$   
(b)  $\frac{3}{8}$  (d)  $\frac{7}{8}$

- 22 June drove her car for 7 hours at an average speed of 52 miles per hour. How many miles did she drive?

- (a) 391 (c) 364  
(b) 381 (d) 354

- 23 The graph below shows the weight in pounds of 30 football players. The greatest number of players are of which weight?



- (a) 150 lb (c) 190 lb  
(b) 170 lb (d) 210 lb

- 24 On a map, if 1 centimeter represents 30 kilometers, how many kilometers will 5 centimeters represent?

- (a) 6 (c) 150  
(b) 35 (d) 900

25 Maria bought 3 bottles of soda at \$.35 per bottle and 3 slices of pizza at \$.40 per slice. What was the total amount of her bill?

- (a) \$.75                      (c) \$2.25  
(b) \$2.20                      (d) \$4.50

29 Valerie spent \$18.85 for a blouse. If she gave the sales clerk \$20, what change should she have received?

- (a) \$1.15                      (c) \$2.15  
(b) \$1.85                      (d) \$2.85

26 An airplane took off at 10:15 a.m. and landed 3 hours and 10 minutes later. What time did the airplane land?

- (a) 1:25 p.m.                  (c) 3:25 p.m.  
(b) 2:25 p.m.                  (d) 7:05 p.m.

30 The factors of 34 are 1, 2, 17, and 34. The factors of 51 are 1, 3, 17, and 51. What is the greatest common factor of 34 and 51?

- (a) 1                              (c) 34  
(b) 17                             (d) 51

27 Written as a decimal, 76% is equal to

- (a) 0.0076                      (c) 0.76  
(b) 0.076                        (d) 7.6

31 What is the value of  $5^2$ ?

- (a) 7                                (c) 25  
(b) 10                              (d) 52

28 Which is equal to  $2\frac{4}{5}$ ?

- (a)  $\frac{14}{4}$                               (c)  $\frac{13}{5}$   
(b)  $\frac{11}{5}$                               (d)  $\frac{14}{5}$

32 The cost for a classified ad in a newspaper is as follows:

\$1.10 for the first 10 words  
\$.30 for each additional word

What is the total cost for a classified ad of 16 words?

- (a) \$1.40                          (c) \$5.80  
(b) \$2.90                          (d) \$6.90

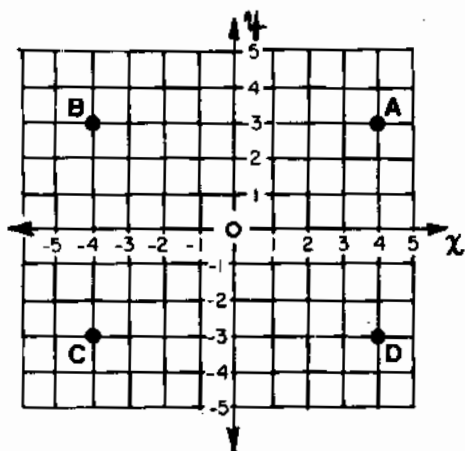
- 33 Walt worked  $4\frac{1}{2}$  hours yesterday and earned \$5 per hour. What was the total amount that he earned?

(a) \$9.00 (c) \$20.50  
(b) \$9.50 (d) \$22.50

- 34 Mark bought a rocking chair with a \$40 down payment and 8 weekly payments of \$15 each. What was the total cost of the rocker?

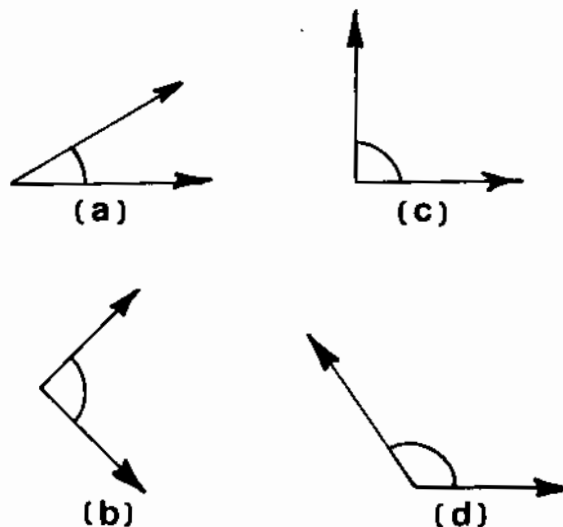
(a) \$55 (c) \$440  
(b) \$160 (d) \$720

- 35 On the graph below, which point has the coordinates (4,3)?



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

- 36 Which angle best approximates  $135^\circ$ ?



- 37 If there is a 7% sales tax, how much tax must be paid for a 10-speed bike which costs \$110?

(a) \$.77 (c) \$7.70  
(b) \$7.07 (d) \$77.00

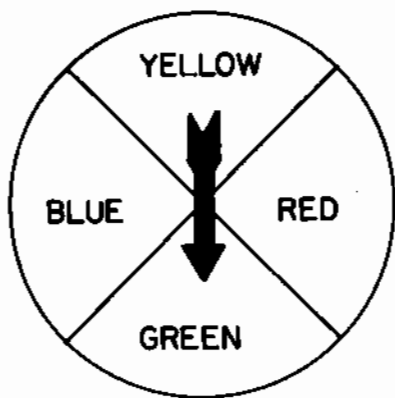
- 38 On the ruler below, which letter represents  $1\frac{3}{8}$  inches?



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



- 39 The spinner below has equal areas labeled yellow, red, green, and blue. What is the probability that the spinner will stop in the area labeled green on the next spin?



- (a) 1  
(b)  $\frac{1}{2}$   
(c)  $\frac{1}{3}$   
(d)  $\frac{1}{4}$

- 40 Which value of  $x$  will make the following sentence true?

$$\frac{3}{4} = \frac{12}{x}$$

- (a) 9  
(b) 15  
(c) 16  
(d) 36

- 41 Charles had \$91 in his checking account. He deposited \$30 and then wrote a check for \$50. What is the balance in his account?

- (a) \$11  
(b) \$71  
(c) \$111  
(d) \$171

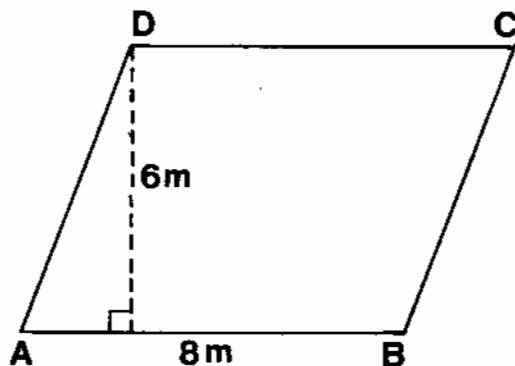
- 42 Which is a prime number?

- (a) 22  
(b) 21  
(c) 19  
(d) 18

- 43 Mr. Robbins borrowed \$1,000 at an annual interest rate of 12% for 2 years from a local bank. Using the formula  $I = prt$ , how much interest must Mr. Robbins pay on his loan after two years?

- (a) \$24.00  
(b) \$240.00  
(c) \$1,024.00  
(d) \$1,240.00

- 44 What is the area of parallelogram ABCD below?



- (a)  $12 \text{ m}^2$   
(b)  $24 \text{ m}^2$   
(c)  $28 \text{ m}^2$   
(d)  $48 \text{ m}^2$

- 45 Given the formula  $S = h(b + c)$ . If  $h = 4$ ,  $b = 3$ , and  $c = 7$ , what is the value of  $S$ ?

- (a) 14  
(b) 20  
(c) 40  
(d) 84

46 In a basketball game, Wendy made 6 of the 10 shots she attempted. What percent of the shots she attempted did she make?

- (a) 60% (c) 6%  
(b) 40% (d) 4%

47 If the diameter of the planet Mars is about 4,000 miles, what is its radius?

- (a) 2,000 miles  
(b) 8,000 miles  
(c) 12,560 miles  
(d) 16,000 miles

48 A chair is regularly priced at \$400. If it is on sale for 30% off, what is the sale price of the chair?

- (a) \$1,600 (c) \$370  
(b) \$520 (d) \$280

49 What is the median of the following scores?  
42, 42, 50, 75, 86

- (a) 42 (c) 59  
(b) 50 (d) 86

50 In a class, there are 17 girls and 13 boys. What is the ratio of the number of girls to the total number of pupils in the class?

- (a) 13:17 (c) 17:13  
(b) 13:30 (d) 17:30

51 The lengths of the sides of a triangle are 6 centimeters, 9 centimeters, and 13 centimeters. What is the perimeter of the triangle?

- (a) 14 cm (c) 28 cm  
(b) 27 cm (d) 54 cm

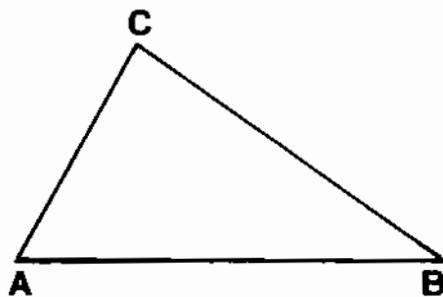
52 How many kilograms are equal to 3,200 grams?

- (a) 3.2 (c) 3,200  
(b) 32 (d) 32,000

53 Add:  $\frac{2}{3} + \frac{1}{2}$

- (a)  $\frac{2}{5}$  (c)  $\frac{3}{6}$   
(b)  $\frac{3}{5}$  (d)  $\frac{7}{6}$

54 In triangle ABC below, what is the sum of the measures of angle A + angle B + angle C?



- (a) 360° (c) 90°  
(b) 180° (d) 45°

55 The positive square root of 82 is closest to

- (a) 41
- (b) 10
- (c) 9
- (d) 8

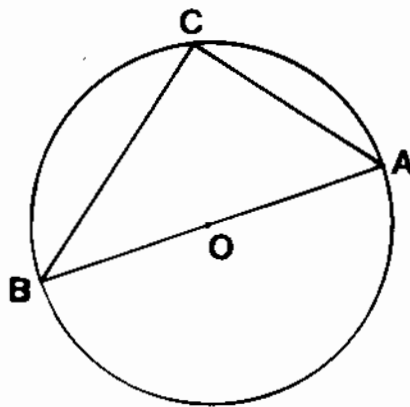
56 If  $\frac{1}{6}$  inch is cut off a piece of paper  $4\frac{1}{2}$  inches long, what is the length of the remaining piece of paper?

- (a)  $3\frac{1}{12}$  in
- (b)  $4\frac{1}{12}$  in
- (c)  $3\frac{1}{3}$  in
- (d)  $4\frac{1}{3}$  in

57 What is the value of  $12 \div \frac{1}{3}$ ?

- (a)  $\frac{1}{36}$
- (b)  $12\frac{1}{3}$
- (c) 36
- (d) 4

58 Points  $A$ ,  $B$ , and  $C$  are on circle  $O$  below. Which statement is true?



- (a) Line segment  $AC$  is a chord.
- (b) Line segment  $BC$  is a diameter.
- (c) Line segment  $OA$  is a diameter.
- (d) Line segment  $AB$  is a radius.

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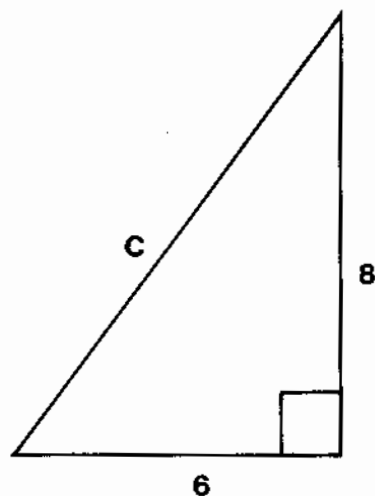
- 59 The chart below shows the number and cost of certain items needed for a project.

What is the total cost of the project?

Item	Number Needed	Cost per Item
Box of Nails	1	\$1.50
Piece of Wood	2	\$1.00
Can of Paint	1	\$4.00

- (a) \$6.50                      (c) \$13.00  
(b) \$7.50                      (d) \$15.00

- 60 In the right triangle below, which statement must be true?



- (a)  $c^2 = 6^2 + 8^2$   
(b)  $c = \frac{1}{2} (6 \times 8)$   
(c)  $6^2 = c^2 + 8^2$   
(d)  $8^2 = c^2 + 6^2$