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The University of the State of New York  
REGENTS COMPETENCY TEST

# MATHEMATICS

Thursday, January 24, 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.**

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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.

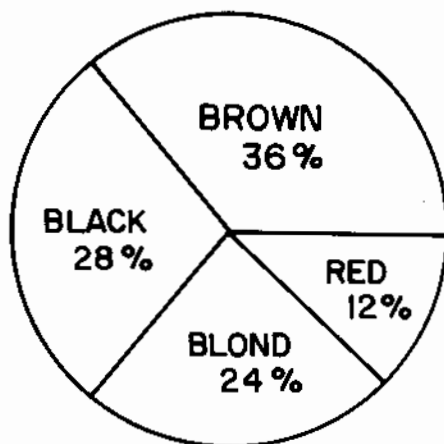
1 Add:

$$\begin{array}{r} 1385 \\ + 648 \\ \hline \end{array}$$

4 Add:  $7.8 + 1.54$

- 2 The circle graph below shows the hair color of students at a junior high school. Which hair color do the *least* number of students have?

STUDENTS' HAIR COLOR



6 Subtract:

$$\begin{array}{r} 80.62 \\ - 1.48 \\ \hline \end{array}$$

7 Subtract 368 from 3000.

8 Multiply:  $\frac{5}{6} \times \frac{1}{3}$

- 3 Write a numeral for fourteen thousand six hundred.

9 Divide:  $4 \overline{)21.92}$

10 Multiply:  $6.3 \times 1.4$

16 Add  $-8$  and  $-3$ .

11 What is the value of  $15^2$ ?

17 A car dealer sold the following number of cars:

<i>Day</i>	<i>Number Sold</i>
Monday	10
Tuesday	26
Wednesday	18
Thursday	16
Friday	10

What was the mean (average) number of cars sold per day?

12 Divide:  $12 \overline{)2436}$

13 The number 23 is what percent of 100?

18 Add:  $\frac{1}{4} + \frac{1}{3}$

14 Solve for  $x$ :  $4x + 5 = 17$

19 Sid drew a triangle. It had one right angle and a second angle with a measure of 60 degrees. How many degrees were in the third angle?

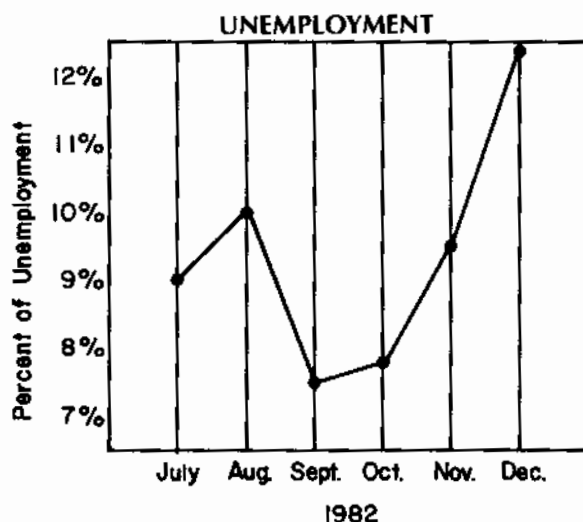
15 Multiply:  $\begin{array}{r} 209 \\ \times 408 \\ \hline \end{array}$

20 Divide:  $\frac{1}{8} \div 4$

### 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 On the graph below, which period showed the *least* change in the percent of unemployment?



- (a) July–Aug. (c) Sept.–Oct.  
(b) Aug.–Sept. (d) Oct.–Nov.

- 22 The value of  $12 - (6 + 4)$  is

- (a) 10 (c) 14  
(b) 2 (d) 22

- 23 Patricia bought a computer with a \$300 downpayment and made payments of \$50 a month for 12 months. What was the total cost of the computer?

- (a) \$350 (c) \$3650  
(b) \$900 (d) \$4200

- 24 Sally had \$2104 in her savings account. She made a withdrawal of \$500 and then made a deposit of \$114. What was the balance in Sally's account after these transactions?

- (a) \$2718 (c) \$1718  
(b) \$2490 (d) \$1490

- 25 Which unit of measure should be used to express the distance from New York City to Washington, D.C.?

- (a) liter (c) hectare  
(b) centigram (d) kilometer

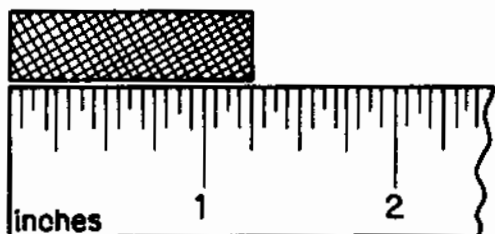
- 26 If a job pays \$8.50 per hour, how much will a person earn in  $1\frac{1}{2}$  hours?

- (a) \$4.25 (c) \$12.75  
(b) \$8.50 (d) \$25.50

- 27 If a car can travel 18 miles on 1 gallon of gasoline, how many gallons of gasoline will it need to travel 468 miles?

- (a) 21 (c) 26  
(b) 24 (d) 36

- 28 What is the length of the metal bar shown in the drawing below?



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

- 29 Jon bought a pair of shoes for \$27.98. If he gave the clerk a \$50 bill, how much change should he have received?

- (a) \$22.02                  (c) \$27.48  
(b) \$23.02                  (d) \$77.98

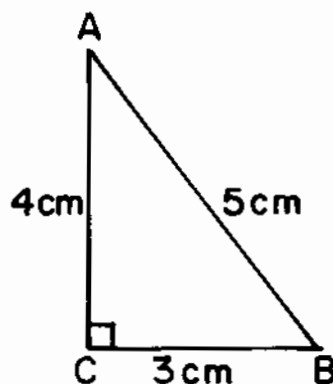
- 30 When written as a decimal, 8% is equal to

- (a) 0.8                      (c) 0.80  
(b) 0.08                    (d) 0.008

- 31 What is 38,501 rounded to the nearest thousand?

- (a) 30,000                  (c) 39,000  
(b) 38,000                  (d) 40,000

- 32 In the triangle below, what is the ratio of AB to CB?



- (a)  $\frac{5}{3}$                       (c)  $\frac{4}{3}$   
(b)  $\frac{5}{4}$                       (d)  $\frac{3}{4}$

- 33 On a test that Shauna is taking, a question has 4 choices and only one correct answer. If she tries to guess the answer without reading the question, what is the probability that she will guess the correct answer?

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

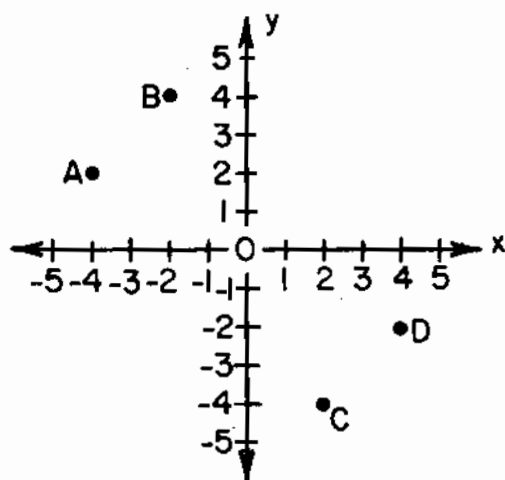
- 34 A roast that takes 3 hours and 45 minutes to cook is put in an oven at 2:30 p.m. At what time should the roast be taken out?

- (a) 5:45 p.m.              (c) 6:15 p.m.  
(b) 6:00 p.m.              (d) 6:30 p.m.

35 Which fraction has the *smallest* value?

- (a)  $\frac{2}{3}$  (c)  $\frac{4}{5}$   
(b)  $\frac{3}{4}$  (d)  $\frac{5}{8}$

36 On the graph below, which point has the coordinates  $(-2, 4)$ ?



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

37 If a wooden board that is  $3\frac{1}{4}$  feet long is cut into 3 pieces of equal length, how many feet long will each piece be?

- (a) 1 (c)  $1\frac{1}{12}$   
(b)  $\frac{11}{12}$  (d)  $9\frac{3}{4}$

38 If the charge for a telephone call from Buffalo, N.Y., to Washington, D.C., is \$0.58 for the first minute and \$0.42 for each additional minute, what would be the cost of a 7-minute telephone call?

- (a) \$3.52 (c) \$2.94  
(b) \$3.10 (d) \$2.52

39 Find the value of  $x$ :

$$\frac{x}{15} = \frac{5}{75}$$

- (a) 1 (c) 15  
(b) 5 (d) 75

40 Paul receives a 5% commission for every home computer he sells. If a home computer sells for \$500, what is his commission?

- (a) \$250.00 (c) \$5.00  
(b) \$25.00 (d) \$2.50

41 A square root of 100 is

- (a) 50 (c) 10  
(b) 25 (d) 5

42 Which is a prime number?

- (a) 9 (c) 17  
(b) 15 (d) 21



<p>43 What is the area of a rectangle that is 4 centimeters wide and 6 centimeters long?</p> <p>(a) 10 cm<sup>2</sup>                      (c) 20 cm<sup>2</sup> (b) 12 cm<sup>2</sup>                      (d) 24 cm<sup>2</sup></p>	<p>48 Which is the greatest common factor of 8 and 20?</p> <p>(a) 40                                  (c) 8 (b) 2                                  (d) 4</p>
<p>44 If a 25% discount is offered on a book that regularly sells for \$7.99, which is the best approximation of how much money would be saved?</p> <p>(a) \$1                                  (c) \$3 (b) \$2                                  (d) \$4</p>	<p>49 Which is the value of <math>3.14 \times 10^2</math>?</p> <p>(a) 0.0314                          (c) 62.8 (b) 31.4                              (d) 314</p>
<p>45 Which is the mode of 10, 12, 12, 15, 16, 20, 27?</p> <p>(a) 17                                  (c) 15 (b) 16                                  (d) 12</p>	<p>50 When 12 is divided by -3, what is the quotient?</p> <p>(a) -4                                  (c) 9 (b) -36                              (d) 4</p>
<p>46 On a blueprint of a school, 1 centimeter represents 5 meters. How many centimeters would represent a wall that is 15 meters long?</p> <p>(a) 300                                  (c) 3 (b) 75                                  (d) <math>\frac{1}{3}</math></p>	<p>51 Valerie's weekly paycheck showed that she paid \$24 in income taxes out of the \$120 she earned that week. The income tax rate on her pay was</p> <p>(a) 20%                                  (c) 50% (b) 2%                                  (d) 96%</p>
<p>47 What is the diameter of a circle whose radius is 14 centimeters?</p> <p>(a) 7 cm                                  (c) 42 cm (b) 28 cm                              (d) 44 cm</p>	<p>52 Mrs. Dean pays \$7.00 for <math>3\frac{1}{2}</math> pounds of cheese. What is the cost of one pound of cheese?</p> <p>(a) \$1.00                                  (c) \$3.50 (b) \$2.00                                  (d) \$21.50</p>

- 53 According to the table below, what is the delivery charge to Zone II for a package that weighs 31.8 pounds?

DELIVERY CHARGES

Delivery Weight	Charges to Zone I	Charges to Zone II	Delivery Weight	Charges to Zone I	Charges to Zone II
0-.5 lb	\$ .86	\$1.12	17.1-18 lbs	\$2.23	\$4.08
.6- 1 lb	1.16	1.45	18.1-19 lbs	2.28	4.19
1.1- 2 lbs	1.39	1.85	19.1-20 lbs	2.33	4.32
2.1- 3 lbs	1.44	2.04	20.1-21 lbs	2.40	4.44
3.1- 4 lbs	1.50	2.25	21.1-22 lbs	2.45	4.56
4.1- 5 lbs	1.56	2.44	22.1-23 lbs	2.50	4.69
5.1- 6 lbs	1.62	2.63	23.1-24 lbs	2.56	4.80
6.1- 7 lbs	1.68	2.84	24.1-25 lbs	2.61	4.93
7.1- 8 lbs	1.73	3.03	25.1-26 lbs	2.68	5.05
8.1- 9 lbs	1.79	3.22	26.1-27 lbs	2.73	5.18
9.1-10 lbs	1.85	3.32	27.1-28 lbs	2.78	5.30
10.1-11 lbs	1.89	3.38	28.1-29 lbs	2.84	5.41
11.1-12 lbs	1.94	3.45	29.1-30 lbs	2.89	5.54
12.1-13 lbs	1.97	3.51	30.1-31 lbs	2.95	5.66
13.1-14 lbs	2.01	3.58	31.1-32 lbs	3.01	5.79
14.1-15 lbs	2.05	3.70	32.1-33 lbs	3.06	5.91
15.1-16 lbs	2.12	3.83	33.1-34 lbs	3.11	6.03
16.1-17 lbs	2.17	3.95	34.1-35 lbs	3.17	6.15

(a) \$1.50

(b) \$2.25

(c) \$3.01

(d) \$5.79

- 54 Which decimal has the *least* value?

(a) 0.505

(c) 0.90

(b) 0.2364

(d) 0.7

- 56 From  $1\frac{3}{8}$  subtract  $\frac{1}{2}$ .

(a)  $\frac{7}{8}$

(c)  $1\frac{2}{4}$

(b)  $1\frac{1}{8}$

(d)  $1\frac{2}{6}$

- 55 The girls in Margie's gym class are 150, 155, 158, 160, 165, 167 and 182 centimeters tall. What is the median height of the girls?

(a) 32 cm

(c) 160 cm

(b) 159 cm

(d) 162 cm

- 57 The price of a bicycle is \$50.00. If the sales tax is 7%, what is the amount of the sales tax?

(a) \$3.50

(c) \$46.50

(b) \$35.00

(d) \$53.50

58 A grocer's sales for 6 days were \$920. If the sales continue at the same rate, what will be the total sales for 30 days?

- (a) \$2760                      (c) \$5520  
(b) \$4600                      (d) \$27,600

59 Robert can buy 1 doughnut for \$0.18. What is the *greatest* number of doughnuts he can buy for \$2.00?

- (a) 10                          (c) 3  
(b) 11                          (d) 12

60 Which drawing is an example of perpendicular lines?

