

The University of the State of New York

REGENTS COMPETENCY TEST

# MATHEMATICS

Thursday, June 18, 1992 — 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.

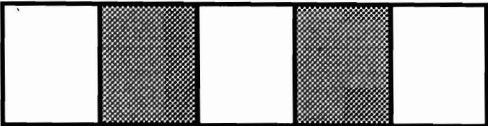
**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.**

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### 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.

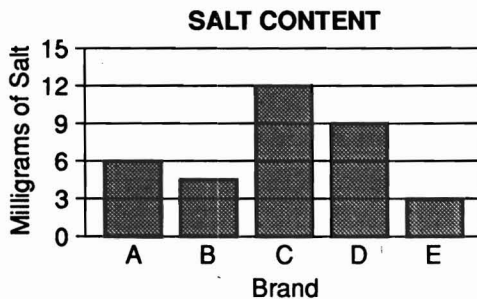
<p>1 Add:</p> $\begin{array}{r} 912 \\ 7 \\ + 89 \\ \hline \end{array}$	<p>8 Reduce <math>\frac{18}{24}</math> to lowest terms.</p>
<p>2 Write the numeral for twenty-four thousand seventy-five.</p>	<p>9 Express <math>\frac{25}{3}</math> as a mixed number.</p>
<p>3 What fractional part of the figure below is shaded?</p> 	<p>10 Multiply <math>(-6)</math> by <math>(-5)</math>.</p>
<p>4 From 5,284 subtract 2,375.</p>	<p>11 Divide: <math>15 \overline{)4590}</math></p>
<p>5 Compute: <math>(3)^3</math></p>	<p>12 Add: <math>(-8) + (13)</math></p>
<p>6 Find the greatest common factor (GCF) for 8 and 18.</p>	<p>13 How many centimeters are in the perimeter of a square if each side of the square measures 5 centimeters?</p>
<p>7 What is 13,482 rounded to the nearest thousand?</p>	<p>14 Solve for x: <math>3x - 6 = 18</math></p>
	<p>15 Divide: 37.1 by 0.7</p>

16 What is $\frac{3}{8}$ of 40?	19 On a map, 1 centimeter represents 10 kilometers. If two cities are 2.5 centimeters apart on the map, what is the actual distance between them in kilometers?
17 Evaluate $2n - 14$ when $n = 32$ .	
18 Subtract 2.12 from 6.	20 Find the value of $8 + 4 \times 2$ .

### 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 bar graph below shows the number of milligrams of salt in five different brands of vegetables.



Which brand has twice as much salt as brand A?

- (1) E (3) C  
(2) B (4) D

- 22 On a pictograph, each  represents 100 magicians. How many of these symbols are needed to represent 450 magicians?

- (1)  $5\frac{1}{2}$  (3) 100  
(2)  $4\frac{1}{2}$  (4) 450

- 23 Catina's employer pays 90% of the cost of her medical insurance plan. What part of the cost does Catina pay?

- (1) 10% (3) 90%  
(2) 50% (4) 100%

- 24 Which unit should be used to estimate the length of a pencil?

- (1) meters (3) kilometers  
(2) liters (4) centimeters

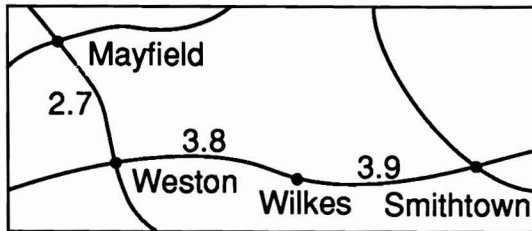
- 25 Tasha had \$123 in her savings account. She deposited \$50 in the account and then withdrew \$25. What is Tasha's new account balance?

- (1) \$198 (3) \$148  
(2) \$173 (4) \$48

- 26 Virgil rented three videotapes at \$1.29 each. If he gave the cashier a \$20.00 bill, how much change should he have received?

- (1) \$16.13 (3) \$18.71  
(2) \$17.23 (4) \$19.56

- 27 On the map below, the distances between towns are shown in miles.



What is the distance from Weston to Smithtown?

- (1) 6.7 miles                      (3) 9.4 miles  
(2) 7.7 miles                      (4) 10.4 miles

- 30 During a 30-day period, 240 people traveled to the top of Mt. Washington. What was the average number of people who went up Mt. Washington each day?

- (1) 6                                      (3) 210  
(2) 8                                      (4) 270

- 31 In the number 1532.67, which digit is in the hundreds place?

- (1) 1                                      (3) 6  
(2) 5                                      (4) 7

- 28 What is the greatest number of shirts that can be purchased with \$100, if each shirt costs \$12.00?

- (1) 8                                      (3) 10  
(2) 9                                      (4) 12

- 32 Which fraction is equal to 75%?

- (1)  $\frac{3}{4}$                                       (3)  $\frac{7}{10}$   
(2)  $\frac{5}{4}$                                       (4)  $\frac{5}{7}$

- 29 Solve for  $y$ :  $\frac{7}{12} = \frac{y}{48}$

- (1)  $1\frac{3}{4}$                                       (3) 28  
(2) 2    (4) 4

- 33 The cost of a newspaper advertisement is listed below:

\$4.00 for the first 2 lines  
\$1.00 for each additional line

What is the cost of a 12-line advertisement?

- (1) \$18.00                                      (3) \$9.50  
(2) \$14.00                                      (4) \$5.00

34 If Kathy earns \$8.25 an hour, how much will she earn working from 8:00 a.m. to 12 noon?

- (1) \$24.75                      (3) \$33.00  
(2) \$32.00                      (4) \$41.25

35 What is the sum of  $\frac{3}{4}$  and  $\frac{1}{6}$ ?

- (1)  $\frac{5}{16}$                           (3)  $\frac{7}{12}$   
(2)  $\frac{12}{11}$                           (4)  $\frac{11}{12}$

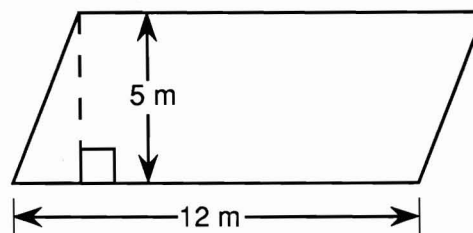
36 The original price of a skirt was \$30. The skirt is on sale at 15% off. What is the sale price?

- (1) \$4.50                          (3) \$34.50  
(2) \$25.50                          (4) \$45.00

37 What is the circumference of a circle whose diameter measures 10 centimeters? (Use  $\pi = 3.14$ )

- (1) 62.8 cm                      (3) 314 cm  
(2) 78.5 cm                      (4) 31.4 cm

38 What is the area of the parallelogram shown below?



- (1)  $30 \text{ m}^2$                       (3)  $60 \text{ m}^2$   
(2)  $34 \text{ m}^2$                       (4)  $120 \text{ m}^2$

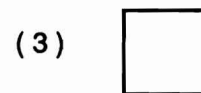
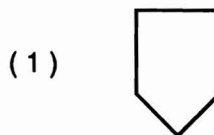
39 Which number is divisible by 4?

- (1) 102                              (3) 266  
(2) 110                              (4) 312

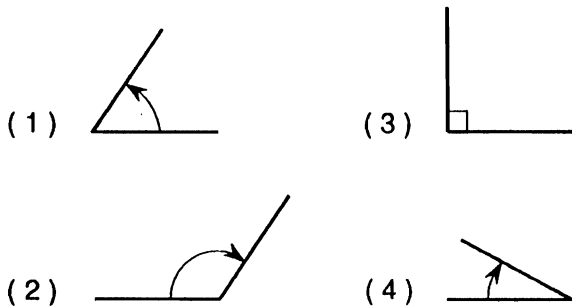
40 The product of 13.2 and 9.4 is

- (1) 1.2408                          (3) 124.08  
(2) 12.408                          (4) 1,240.8

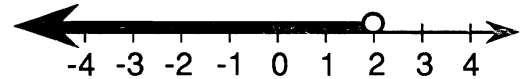
41 Which of these polygons is *not* a quadrilateral?



42 Which angle is obtuse?



46 Which inequality is shown by the graph below?



- (1)  $x \geq 2$  (3)  $x \leq 2$   
 (2)  $x > 2$  (4)  $x < 2$

43 Jamal bought a used car. If he paid \$500 down and made 24 monthly payments of \$150 each, what was the total cost of Jamal's car?

- (1) \$650 (3) \$4,100  
 (2) \$3,600 (4) \$12,150

47 Randall bought a videocassette recorder that cost \$375. If the sales tax rate is 8%, how much sales tax did he pay?

- (1) \$3 (3) \$300  
 (2) \$30 (4) \$3,000

44 What is the median of the following group of numbers?

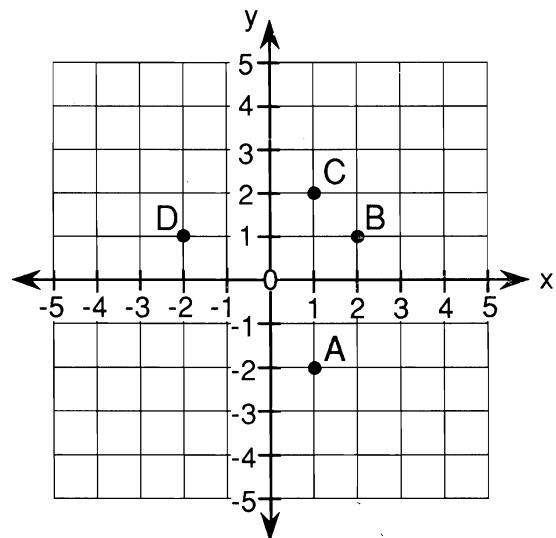
32, 32, 37, 39, 40

- (1) 32 (3) 37  
 (2) 36 (4) 40

45 Which four integers are listed in order from least to greatest?

- (1) -1, +3, -5, -7 (3) -1, -5, -7, +3  
 (2) -7, -5, -1, +3 (4) -7, -5, +3, -1

48 According to the graph below, point (1, -2) is identified by which letter?



- (1) A (3) C  
 (2) B (4) D

**49** If 3 candy bars cost 99¢, what is the cost of 24 candy bars?

- (1) \$2.97                      (3) \$12.38  
(2) \$7.92                      (4) \$23.76

**50** Compute:

$$\begin{array}{r} 7 \\ - 4\frac{2}{3} \\ \hline \end{array}$$

- (1)  $2\frac{1}{3}$                       (3)  $3\frac{1}{3}$   
(2)  $2\frac{2}{3}$                       (4)  $3\frac{2}{3}$

**51** What is the least common denominator (LCD) of  $\frac{1}{2}$ ,  $\frac{2}{3}$ , and  $\frac{5}{8}$ ?

- (1) 6                              (3) 24  
(2) 16                            (4) 48

**52** A jar contains four red marbles, two white marbles, and three blue marbles. Without looking, a student draws one marble from the jar. What is the probability that the marble drawn is blue?

- (1)  $\frac{3}{10}$                       (3) 3  
(2)  $\frac{1}{3}$                       (4) 9

**53** Divide:  $2\frac{1}{2} \div 3\frac{1}{4}$

- (1)  $1\frac{3}{10}$                       (3)  $\frac{8}{13}$   
(2)  $8\frac{1}{8}$                       (4)  $\frac{10}{13}$

**54** The chart shows what part of a day it took four people to assemble a model airplane.

Sasha	Terrill	Elisa	Jenna
$\frac{5}{8}$ day	$\frac{2}{3}$ day	$\frac{5}{12}$ day	$\frac{5}{24}$ day

Which person took the longest time?

- (1) Sasha                      (3) Elisa  
(2) Terrill                      (4) Jenna

**55** Which numbers make this inequality true?

$$n + 4 < 7$$

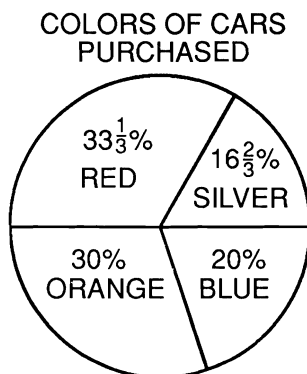
- (1) 0, 1, 2                      (3) 3, 4  
(2) 4, 5, 6                      (4) 8, 9, 10

**56** What is the prime factorization of 70?

- (1)  $2 \times 35$                       (3)  $2 \times 5 \times 7$   
(2)  $7 \times 10$                       (4)  $5 \times 14$



- 57 The circle graph below shows the percentages of various colors of cars purchased from a car dealer last month.



If 90 cars were purchased, how many were blue?

- (1) 18                      (3) 45  
(2) 20                      (4) 54

- 58 Which is a square root of 36?

- (1) 6                      (3) 18  
(2) 12                    (4) 1296

- 59 Using the formula  $A = \pi r^2$ , what is the area of a circle whose radius is 7 centimeters? (Use  $\pi = \frac{22}{7}$ )

- (1)  $14 \text{ cm}^2$                       (3)  $44 \text{ cm}^2$   
(2)  $22 \text{ cm}^2$                       (4)  $154 \text{ cm}^2$

- 60 A kilometer is equal to

- (1) 10 meters  
(2) 100 meters  
(3) 1000 meters  
(4)  $\frac{1}{1000}$  of a meter