REGENTS COMPETENCY TEST

MATHEMATICS

Friday, June 17, 1994 — 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.

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: 13,462
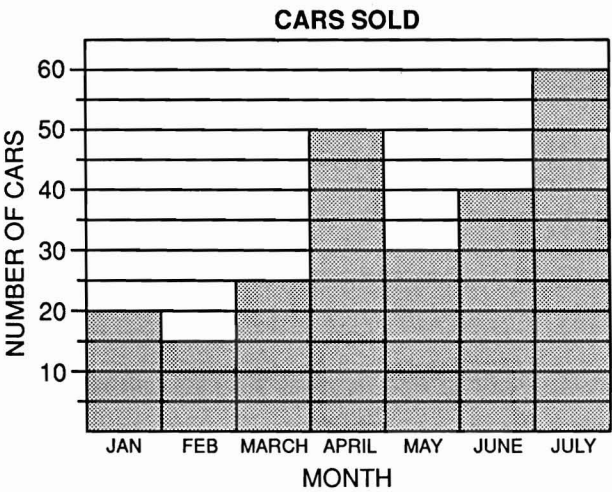   2,271
       +   511

2 Add: 3.7 + 0.157 + 4.98

3 From 906 subtract 87.

4 Subtract: 7.362
              2.593

5 What is the value of 5^3?

6 On a map, 1 inch represents 40 miles. How many inches represent 240 miles?

7 The graph below shows the number of cars sold during a 7-month period. How many more cars were sold in April than in February?

CARS SOLD

8 Find the median of these numbers:

70, 74, 80, 82, 84

9 Multiply: 184
             × 27

10 Reduce $\frac{30}{45}$ to lowest terms.

11 Divide: $0.3 \overline{)46.2}$

12 Express as a decimal: one hundred four and twenty-two hundredths.

13 What is the least common multiple of 2, 4, and 5?

14 Multiply –3 by 5.

15 Solve for x: $4x - 3 = 21$

16 What is the sum of 22 and –17?

17 Compute: $\dfrac{7}{9} - \dfrac{3}{18}$

18 A school must purchase pencils in boxes of 240. If there are 1600 students in the school, what is the *least* number of boxes needed to provide one pencil to each student?

19 What is $\dfrac{2}{3}$ of 75?

20 What number is 25% of 24?

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.
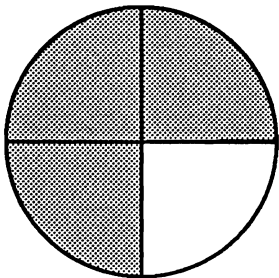
21 A pizza costs $11.25. If Lamel pays for it with a $20 bill, how much change should he receive?

(1) $9.25   (3) $7.75
(2) $8.75   (4) $7.25

22 Miori drove her car for 8 hours at an average speed of 55 miles per hour. How many miles did she drive?

(1) 63   (3) 440
(2) 400   (4) 444

23 What percent of the circle below is shaded?

(1) 0.0075%   (3) 3%
(2) 7.5%   (4) 75%

24 Each represents 20 cups of coffee. How many cups of coffee are represented below?

(1) 80   (3) 35
(2) 70   (4) $3\frac{1}{2}$

25 Which group of numbers is arranged in order from smallest to largest?

(1) –2, –1, 0, 2, 1   (3) 1, 2, 0, –1, –2
(2) 0, 1, –1, 2, –2   (4) –2, –1, 0, 1, 2

26 What is the best approximation for 302 times 487?

(1) 12,000   (3) 150,000
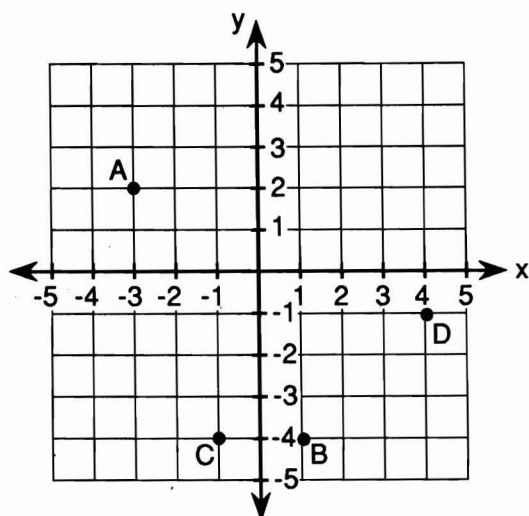(2) 1,200,000   (4) 1,500,000

27 Solve for x: $\dfrac{5}{8} = \dfrac{35}{x}$

(1) 38   (3) 175
(2) 56   (4) 280

28 Which fraction is equivalent to 0.06?

(1) $\dfrac{6}{10}$ (3) $\dfrac{3}{6}$

(2) $\dfrac{6}{100}$ (4) $\dfrac{3}{26}$
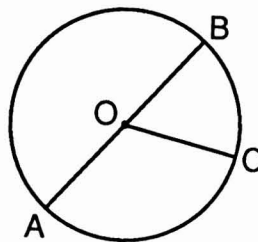
29 On the graph below, which point has coordinates (4,–1)?

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

30 What is the positive square root of 49?

(1) 4.9   (3) 24.5
(2) 7   (4) 2401

31 In the circle below with center O, what is the length of radius $\overline{OC}$ if the length of diameter $\overline{AB}$ equals 12?

(1) 24   (3) 8
(2) 9   (4) 6

32 Michael had $128.50 in his checking account. He deposited checks for $17.10 and $37.40, and then withdrew $96.25. What was his new balance?
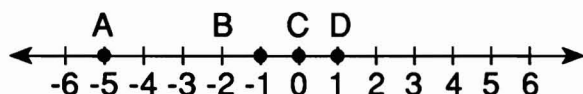
(1) $54.50   (3) $96.25
(2) $86.75   (4) $183.00

33 Joanna took $3\dfrac{1}{2}$ hours to drive to her mother's house. If she arrived at 7:45 p.m., what time did she leave home?

(1) 4:15 a.m.   (3) 4:15 p.m.
(2) 11:15 a.m.   (4) 5:15 p.m.

34 If four cans of lemonade sell for $2.00, what is the cost of two cans?

(1) $1.00   (3) $1.50
(2) $0.50   (4) $4.00

35 Multiply: 5.7×0.08

(1) 456   (3) 0.456
(2) 4.56   (4) 0.0456

36 What is the approximate length of a new pencil?

(1) 18 millimeters
(2) 18 centimeters
(3) 18 meters
(4) 18 kilometers

37 Luis purchased a computer by paying $300 down and making 12 payments of $80 each. How much did he pay for the computer?

(1) $960   (3) $1160
(2) $1100   (4) $1260

38 What is 17 divided by 4?

(1) $\frac{4}{17}$ (3) $4\frac{1}{4}$

(2) $4\frac{1}{17}$ (4) $4\frac{4}{17}$

39 Eight pieces of paper, each containing one of the letters in the word "POSITIVE," are placed in an envelope. If one piece of paper is chosen at random, what is the probability that it will contain the letter "I"?

(1) $\frac{1}{8}$ (3) $\frac{1}{2}$

(2) $\frac{2}{8}$ (4) $\frac{6}{8}$

40 What is the perimeter of the rectangle below?

(1) 20   (3) 48
(2) 40   (4) 96

41 On the number line below, which point represents a number that is less than –2?
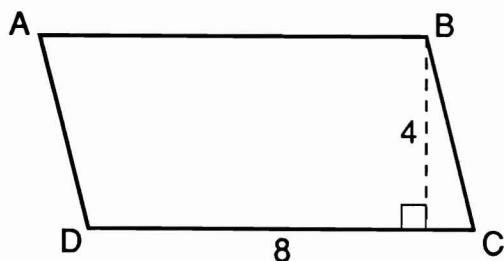
A   B   C D

$$\longleftarrow \overset{A}{\underset{-6}{\bullet}} \; \overset{}{\underset{-5}{|}} \; \overset{}{\underset{-4}{|}} \; \overset{B}{\underset{-3}{\bullet}} \; \overset{}{\underset{-2}{|}} \; \overset{C}{\underset{-1}{\bullet}} \; \overset{D}{\underset{0}{\bullet}} \; \overset{}{\underset{1}{|}} \; \overset{}{\underset{2}{|}} \; \overset{}{\underset{3}{|}} \; \overset{}{\underset{4}{|}} \; \overset{}{\underset{5}{|}} \; \overset{}{\underset{6}{|}} \longrightarrow$$

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

42 If the sales tax rate is 7%, what is the amount of tax on a $9.00 cassette tape?

(1) $0.06   (3) $0.63
(2) $0.37   (4) $6.30

43 What is the area of parallelogram *ABCD* below?

(1) 64   (3) 16
(2) 32   (4) 12

44 What is the value of $1\frac{2}{3} \div 6$?

(1) $\frac{1}{10}$ (3) $\frac{18}{5}$

(2) $\frac{5}{18}$ (4) 10

45 If Tom is *x* years old today, which expression represents his age 10 years ago?

(1) $x - 10$ (3) $10 - x$
(2) $x + 10$ (4) $10x$

46 On a mathematics test, Hector correctly answered 34 out of 40 questions. What percent of the questions did he answer correctly?

(1) 1.17   (3) 75
(2) 65   (4) 85

47 Gregory earns $5.25 per hour for a 40-hour work week. A total of $47.35 is withheld for State and Federal income taxes from his weekly paycheck, and $13.65 is deducted for Social Security. How much is his net pay?

(1) $101.65   (3) $149
(2) $139   (4) $210

48 A car salesperson is paid a 3% commission on all sales. If she sells a car for $11,580, what would be her commission?

(1) $337.40   (3) $3,374.00
(2) $347.40   (4) $3,474.00

49 In order to sell her used bicycle, Sharla placed an advertisement in the local newspaper. The paper charged $2.50 for the first 10 words and $0.12 for each additional word. What was the cost if Sharla's advertisement was 22 words?

(1) $2.64   (3) $5.00
(2) $3.94   (4) $5.24

50 The chart below shows the number and cost of items needed to make a skirt.

Item	Quantity Needed	Cost
Zipper	1	$1.25
Spool of Thread	1	$0.95
Material	3 yards	$2.00 per yard

What is the total cost of the items needed to make the skirt?

(1) $4.20   (3) $6.20
(2) $5.20   (4) $8.20

51 Which number is *not* exactly divisible by 3?

(1) 2,592   (3) 1,256
(2) 1,689   (4) 1,014

52 Which is a prime number?

(1) 9   (3) 39
(2) 19   (4) 49

53 What is the sum of $\frac{2}{3}$ and $\frac{1}{6}$?

(1) $\frac{5}{6}$ (3) $\frac{3}{9}$

(2) $\frac{3}{6}$ (4) $\frac{2}{18}$

54 If a team won nine games, lost two games, and had no ties last season, what was the ratio of wins to total games played?

(1) $\frac{2}{9}$ (3) $\frac{2}{11}$

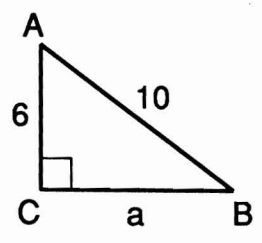(2) $\frac{9}{2}$ (4) $\frac{9}{11}$

55 In the formula $p = 2\ell + 2w$, what is the value of p when $\ell = 73$ and $w = 28$?

(1) 56   (3) 146
(2) 101   (4) 202

56 Amy bought a handbag on sale for 25% off the regular price of $45.00. How much did the handbag cost?

(1) $11.25   (3) $36.25
(2) $33.75   (4) $44.75

57 Which expression has a value of 14?

(1) $5 + 4 \times 2 + 1$
(2) $(5 + 4) \times (2 + 1)$
(3) $(5 + 4) \times 2 + 1$
(4) $5 + 4 \times (2 + 1)$

58 How many millimeters equal 1.5 meters?

(1) 0.0015   (3) 150
(2) 15   (4) 1,500

59 In the right triangle below, $CA = 6$ and $AB = 10$. What is the value of a? (Use the formula $a^2 + b^2 = c^2$)

(1) 8   (3) 17
(2) 10   (4) 24

60 What is the area of a circle whose radius is 7 centimeters?
$\left(\text{Use } A = \pi r^2 \text{ and } \pi = \dfrac{22}{7} \right)$

(1) 22 cm^2 (3) 154 cm^2
(2) 44 cm^2 (4) 1,078 cm^2