REGENTS COMPETENCY TEST

MATHEMATICS

Tuesday, June 18, 1996 – 1:15 p.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 No. 2 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

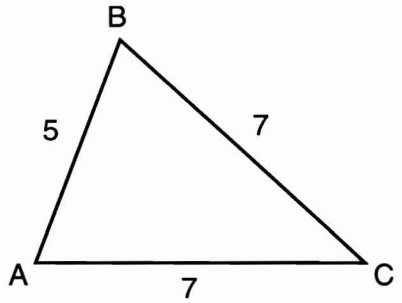
Answer all 20 questions in this part. Write your answers on the lines provided in PART A on the separate answer sheet. Use only a No. 2 pencil on the answer sheet.

1 Add:

$$\begin{array}{r} 4392 \\ 5803 \\ +\ 1067 \\ \hline \end{array}$$

2 Subtract 152 from 201.

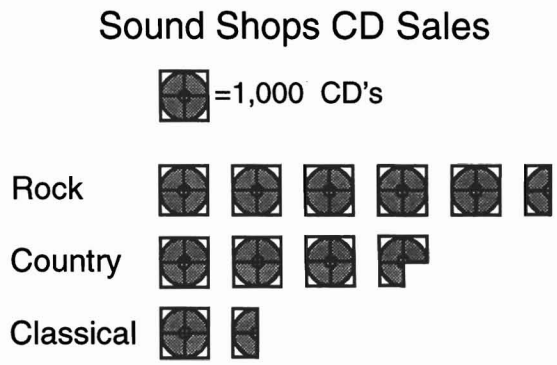
3 What is the perimeter of the triangle below?



4 Multiply: $\frac{5}{6} \times \frac{1}{4}$

5 Compute: $12.16 - 9.4$

6 The graph below shows the number of rock, country, and classical CD's sold by Sound Shops last year.



How many classical CD's are represented in the graph?

7 Write the numeral for fifty-seven thousand sixty-eight.

8 Multiply:

$$\begin{array}{r} 8.5 \\ \times\ 5.2 \\ \hline \end{array}$$

9 Divide: $41\overline{)9676}$

10 Katlin wants to buy milkshakes for several friends. Each milkshake costs \$0.95 and she has \$7.50. What is the greatest number of milkshakes she can buy?

11 Solve for x: $5x - 2 = 18$

12 Divide: $36 \div (-4)$

13 What is the mean (average) of these test scores?

70, 85, 75, 80, 80

14 What is the sum of –5 and –14?

15 Reduce $\frac{8}{44}$ to lowest terms.

16 Add: $\frac{1}{4} + \frac{3}{5}$

17 What is the diameter of a circle whose radius is 6?

18 Subtract $\frac{2}{3}$ from $\frac{5}{6}$.

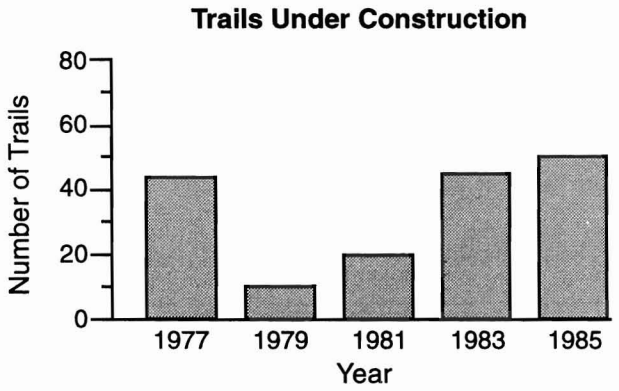
19 A rectangle has a length of 8 feet and a width of 6 feet. How many square feet are in the area of the rectangle?

20 Find the value of $5 + 3 \times 7$.

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 No. 2 pencil on the answer sheet.

21 The graph below shows the number of ski trails under construction for several years.



In which year were the greatest number of trails under construction?

(1) 1977 (3) 1983
(2) 1981 (4) 1985

22 Robert bought a binder for $4.25 and a pen for $5.40. What was the total cost of these items?

(1) $3.15 (3) $10.65
(2) $9.65 (4) $10.85

23 Which number is exactly divisible by 5?

(1) 120 (3) 123
(2) 121 (4) 127

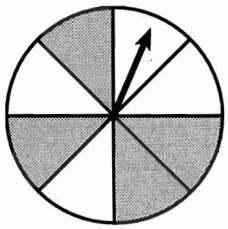
24 If 5 pairs of socks cost $8.00, what is the cost of 1 pair of socks?

(1) $0.40 (3) $8.00
(2) $1.60 (4) $40.00

25 If $52.00 is deposited into a savings account containing $166.27, what will be the new balance?

(1) $64.27 (3) $218.27
(2) $128.27 (4) $228.27

26 What is the probability that the spinner shown below will stop on a shaded area on the next spin?



(1) $\frac{5}{8}$ (3) $\frac{3}{8}$
(2) $\frac{4}{8}$ (4) $\frac{1}{8}$

27 Which number has a 6 in the hundreds place?

(1) 6201 (3) 2601
(2) 4026 (4) 1062

28 The table below can be used to find out how many gallons of gasoline a car will need to travel a given number of miles.

GASOLINE USAGE

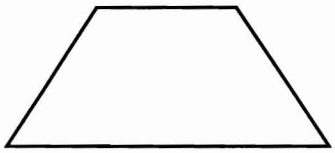
Distance (miles)	Rate of Use (mpg)					
	10 mpg	15 mpg	20 mpg	25 mpg	30 mpg	35 mpg
8,000	800 gal	533 gal	400 gal	320 gal	267 gal	229 gal
10,000	1000 gal	667 gal	500 gal	400 gal	333 gal	286 gal
12,000	1200 gal	800 gal	600 gal	480 gal	400 gal	343 gal
16,000	1600 gal	1067 gal	800 gal	640 gal	533 gal	457 gal

If a car uses gasoline at a rate of 25 miles per gallon, how much gasoline will be needed to travel 10,000 miles?

(1) 500 gal
(2) 480 gal
(3) 333 gal
(4) 400 gal

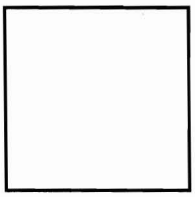
29 Which figure is a trapezoid?

(1)



(2)

(3)



(4)

30 Jim had these deductions taken from his paycheck: \$4.25 for Federal income tax, \$2.16 for state income tax, and \$1.05 for Social Security tax. If Jim's gross pay was \$89.50, how much money did he take home?

(1) \$81.04
(2) \$81.16
(3) \$82.04
(4) \$82.16

31 The expression 4^3 is equivalent to

(1) $4 \cdot 4 \cdot 4$
(2) $4 + 4 + 4$
(3) $3 \cdot 3 \cdot 3 \cdot 3$
(4) $4 \cdot 3$

32 The greatest common factor (GCF) of 18 and 81 is

(1) 8 (3) 3
(2) 9 (4) 18

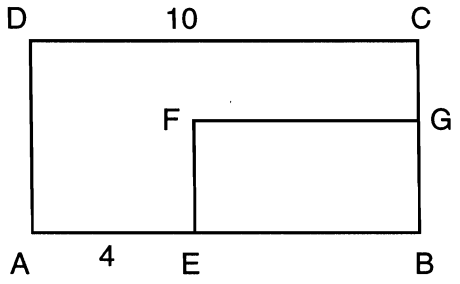
33 Oscar traveled 240 miles in 5 hours. What was his average speed?

(1) 1200 mph (3) 48 mph
(2) 60 mph (4) 40 mph

34 Which fraction is equivalent to $3\frac{5}{9}$?

(1) $\frac{32}{9}$ (3) $\frac{15}{9}$
(2) $\frac{24}{9}$ (4) $\frac{8}{9}$

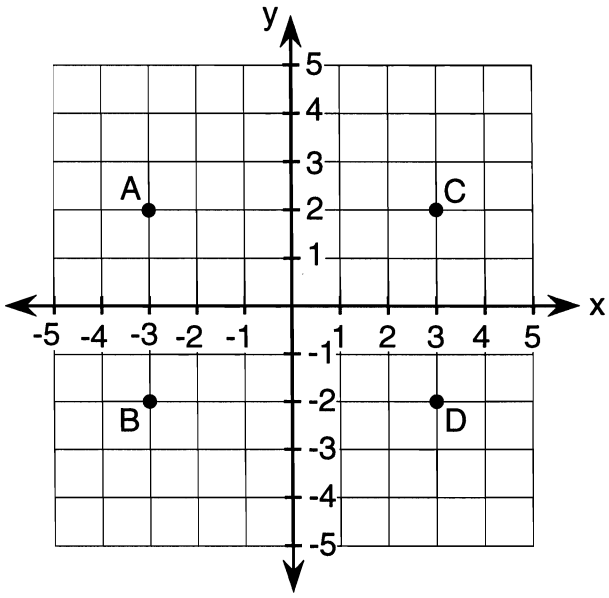
35 In the diagram below, *ABCD* and *EFGB* are rectangles, *DC* = 10, and *AE* = 4.



What is the length of $\overline{EB}$?

(1) 10 (3) 5
(2) 6 (4) 4

36 On the graph below, which point has the coordinates (3,–2)?



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

37 Which decimal has the greatest value?

(1) 0.889 (3) 0.989
(2) 0.898 (4) 0.998

38 What is the mode of this group of numbers?

8, 1, 3, 7, 8, 9, 6, 9, 4, 8, 3

(1) 8 (3) 3
(2) 7 (4) 6

39 What is 9.49 rounded to the nearest tenth?

(1) 9
(2) 9.4
(3) 9.5
(4) 10

40 Which number is between –2 and 5?

(1) 1
(2) –4
(3) –5
(4) –10

41 A bus trip from Syracuse to Albany takes 2 hours 45 minutes. If the bus leaves Syracuse at 1:30 p.m., what time should it arrive in Albany?

(1) 3:15 p.m.
(2) 3:30 p.m.
(3) 3:45 p.m.
(4) 4:15 p.m.

42 Which decimal is equal to $\frac{3}{4}$?

(1) 1.33
(2) 0.75
(3) 0.34
(4) 3.4

43 A computer can be purchased with a downpayment of $150 and $80 a month for 1 year. What is the total cost of the computer?

(1) $150
(2) $960
(3) $1,010
(4) $1,110

44 Tameka bought 3 tapes on sale for $5.98 each. How much change should she receive from a $20.00 bill?

(1) $2.06
(2) $3.06
(3) $14.02
(4) $17.94

45 A store offers a 5% discount on all cash sales. How much could be saved by paying cash on a bill that totals $21?

(1) $20.95
(2) $19.95
(3) $10.50
(4) $1.05

46 What is 40% of 90?

(1) 0.036
(2) 36
(3) 130
(4) 360

47 If Alva travels 4 miles in 8 minutes, what is the total number of miles she will travel in 24 minutes?

(1) 12
(2) 2
(3) 36
(4) 48

48 Using the formula $P = 4s$, find the value of s when $P = 20$.

(1) 5
(2) 10
(3) 20
(4) 80

49 The length of a toothbrush is approximately

(1) 15 meters (3) 15 centimeters
(2) 15 millimeters (4) 15 kilometers

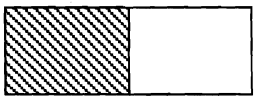
50 Miguel bought a videocassette recorder (VCR) for $230 plus tax. If the sales tax rate was 7%, how much tax did he pay?

(1) $1.61 (3) $231.61
(2) $16.10 (4) $246.10

51 Which is a prime number?

(1) 21 (3) 25
(2) 23 (4) 27

52 What percent of the figure below is shaded?



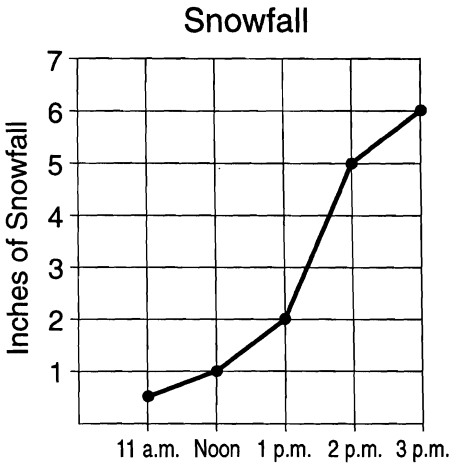
(1) $\frac{1}{2}$% (3) 50%
(2) 2% (4) 100%

53 Which values of n make this statement true?

$$n + 6 < 9$$

(1) 1 and 2 (3) 3 and 4
(2) 7 and 8 (4) 10 and 11

54 The graph below shows the depth of snow on the ground during a storm that lasted 4 hours.



During which 1-hour interval did the most snow fall?

(1) 11 a.m.–noon
(2) 12 p.m.–1 p.m.
(3) 1 p.m.–2 p.m.
(4) 2 p.m.–3 p.m.

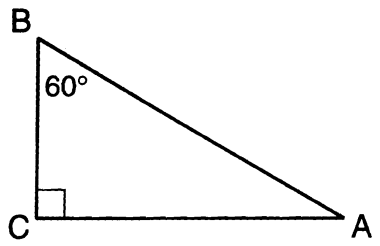
55 On a map, 1 centimeter represents 8 kilometers. How many kilometers are represented by 3.5 centimeters?

(1) 24.5 km (3) 36 km
(2) 28 km (4) 56 km

56 Solve for x: $\frac{x}{3} = \frac{14}{21}$

(1) 7 (3) 42
(2) 2 (4) 98

57 In the right triangle below, what is the measure of $\angle A$?



(1) 30°
(2) 45°
(3) 60°
(4) 90°

58 What is the prime factorization of 18?

(1) 2×9
(2) $3 \times 6 \times 1$
(3) $2 \times 2 \times 3$
(4) $2 \times 3 \times 3$

59 Which equation is an example of the commutative property of multiplication?

(1) $9 \times 3 = 9 \times 3$
(2) $9 \times 3 = 3 \times 9$
(3) $2 \times (9 \times 3) = (2 \times 9) \times 3$
(4) $2 \times (9 \times 3) = 2 \times 9 \times 2 \times 3$

60 The value of $\sqrt{10}$ is between which two integers?

(1) 1 and 2
(2) 2 and 3
(3) 3 and 4
(4) 4 and 5