REGENTS COMPETENCY TEST

MATHEMATICS

Tuesday, January 26, 1999 — 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 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:
$$\begin{array}{r} 12 \\ 405 \\ +\ 381 \\ \hline \end{array}$$

2 Subtract 432 from 678.

3 Add: 11.6 + 7.32 + 0.05

4 Express $2\frac{1}{2}$ as an improper fraction.

5 In the number 27,654, which digit is in the hundreds place?

6 Divide 3555 by 15.

7 Reduce $\frac{20}{45}$ to lowest terms.

8 Multiply:
$$\begin{array}{r} 347 \\ \times\ 63 \\ \hline \end{array}$$

9 Round 22,540 to the nearest thousand.

10 Carl had \$2.25 in nickels. How many nickels did he have?

11 Divide: $2.3\overline{)2.53}$

12 Compute: 6.35 – 3.182

13 Multiply:

$$\begin{array}{r} 6.8 \\ \times\ 4.3 \\ \hline \end{array}$$

14 Divide: $(24) \div (-4)$

15 If the perimeter of a square is 28 centimeters, what is the number of centimeters in the length of each side?

16 On the last five math tests, Lisa had scores of 80, 84, 96, 66, and 89. What is the mean (average) of these scores?

17 Solve for x: $3x - 5 = 13$

18 Multiply 734.13 by 1000.

19 Subtract:

$$\begin{array}{r} 3 \\ -\ 1\frac{1}{3} \\ \hline \end{array}$$

20 In a triangle, one angle measures 85° and another angle measures 25°. What is the number of degrees in the measure of the third angle of the triangle?

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 In the diagram below, each  represents 1000 ice cream cones sold.

How many ice cream cones were sold?

(1) 450
(2) 550
(3) 4500
(4) 5500

22 A train was scheduled to arrive at 10:15 a.m. but arrived 30 minutes late. At what time did the train arrive?

(1) 9:30 a.m.
(2) 9:45 a.m.
(3) 10:30 a.m.
(4) 10:45 a.m.

23 Which numeral represents forty thousand fourteen?

(1) 14,014
(2) 40,014
(3) 40,114
(4) 40,140

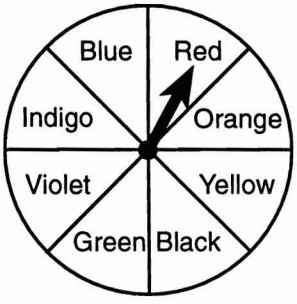
24 Roberto earns $3.50 per hour. If he works 16 hours, what is the total amount that he earns?

(1) $56.00
(2) $38.25
(3) $35.00
(4) $32.00

25 Which number is the same as $4 \times 4 \times 4 \times 4 \times 4$?

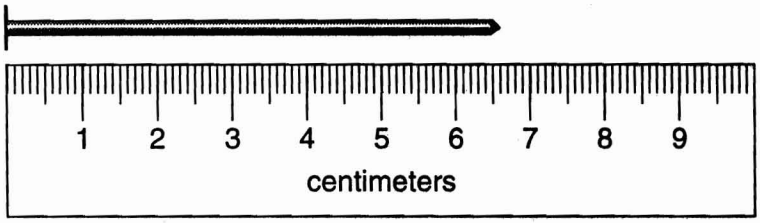
(1) 40
(2) 5^4
(3) 20
(4) 4^5

26 In the diagram below, what is the probability that the spinner will point to orange on the next spin?



(1) 1
(2) $\frac{7}{8}$
(3) $\frac{1}{8}$
(4) 0

27 What is the length of the nail shown below?



(1) 0.6 cm
(2) 6 cm
(3) 6.6 cm
(4) 66 cm

28 What is the mode of these numbers?

20, 25, 27, 29, 29

(1) 29
(2) 27
(3) 26
(4) 20

29 What is the greatest common factor (GCF) of 4, 8, and 10?

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

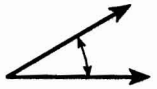
30 Written as a decimal, 8% is

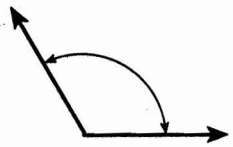
(1) 0.08
(2) 0.80
(3) 80
(4) 800

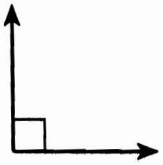
31 Solve for x: $\frac{5}{7} = \frac{x}{21}$

(1) 15
(2) 34
(3) 3
(4) 105

32 Which diagram represents an obtuse angle?


(1)


(3)


(2)


(4)

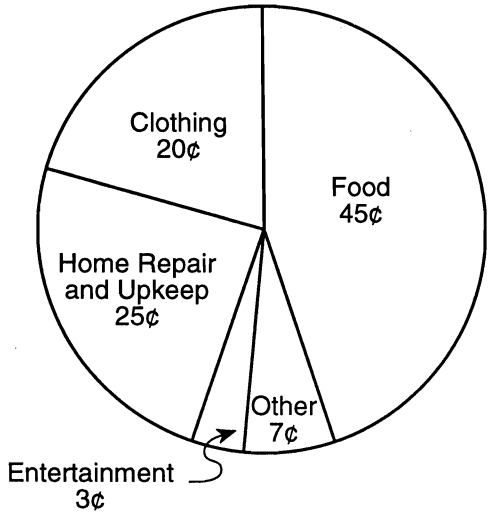
33 The value of $\frac{2}{5} \times \frac{15}{22}$ is

(1) $\frac{3}{11}$ (3) $\frac{66}{75}$

(2) $\frac{17}{27}$ (4) $\frac{13}{111}$

34 The circle graph below shows how the Wilson family uses each dollar in budgeting for expenses.

Wilson Family Budget



In which area do they budget the most money?

(1) clothing
(2) home repair and upkeep
(3) entertainment
(4) food

35 Keesha earns a 20% commission selling magazines. What will her commission be for selling $160 worth of magazines?

(1) $12.50 (3) $60.00
(2) $32.00 (4) $320.00

36 Laurie had $842.50 in her checking account. She made a deposit of $250.80 and then wrote a check for $120.00. What was her new balance?

(1) $471.70 (3) $973.30
(2) $711.70 (4) $1,213.30

37 A rectangular floor measures 9 feet by 6 feet. How many square feet of carpet will be needed to cover the entire floor?

(1) 15 (3) 54
(2) 30 (4) 63

38 One side of an equilateral triangle is 6 inches long. What is the number of inches in the perimeter of this triangle?

(1) 16 (3) 30
(2) 18 (4) 36

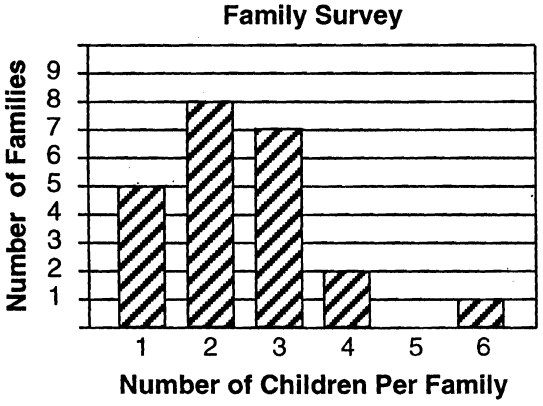
39 The total cost of three bars of candy is $1.05. What is the total cost of 12 bars of candy?

(1) $2.10
(2) $3.15
(3) $4.20
(4) $5.15

40 Which number has the *least* value?

(1) −9
(2) −2
(3) 0
(4) 8

41 The graph below shows the results of a survey comparing the number of children in 23 families.



What was the most common number of children per family?

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

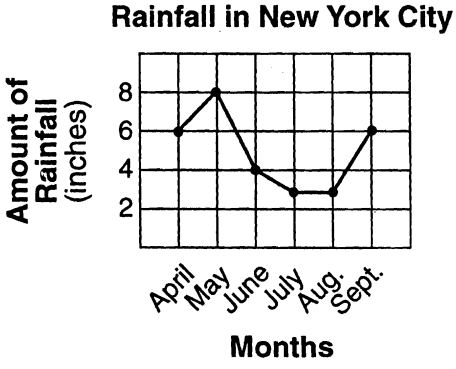
42 A bus carries a maximum of 50 people. What is the *least* number of buses needed to carry 235 people?

(1) 10
(2) 8
(3) 5
(4) 4

43 Benito buys a stereo system that costs $300. If sales tax is 8%, how much sales tax must he pay?

(1) $8
(2) $24
(3) $324
(4) $2,400

44 The graph below shows the amount of rainfall, in inches, in New York City during a 6-month period.



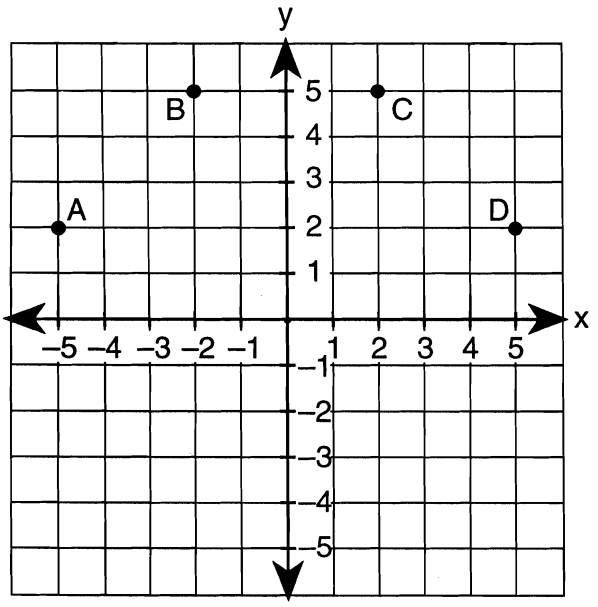
How many more inches of rain fell in May than in June?

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

45 In the equation $y = 2x - 3$, what is the value of y when $x = 4$?

(1) 1
(2) 5
(3) 3
(4) 11

46 On the graph below, which point has coordinates (2,5)?



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

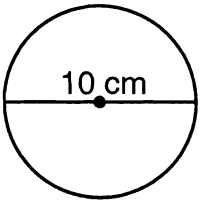
47 Amy bought two pens for \$0.79 each and a notebook for \$1.25. How much change should she have received from a \$5 bill?

(1) \$3.04
(2) \$2.96
(3) \$2.29
(4) \$2.17

48 On a map, 1 centimeter represents 50 kilometers. How many centimeters will represent 800 kilometers?

(1) 8000
(2) 4000
(3) 160
(4) 16

49 The diagram below represents a circle that has a diameter of 10 centimeters.



According to the formula $C = \pi d$, what is the circumference of the circle? (Use $\pi = 3.14$)

(1) 3.14 cm
(2) 31.4 cm
(3) 62.8 cm
(4) 314 cm

50 What is the least common denominator (LCD) of $\frac{3}{4}$, $\frac{4}{5}$, and $\frac{1}{2}$?

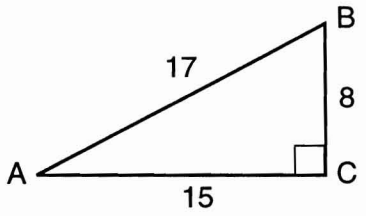
(1) 10
(2) 20
(3) 30
(4) 40

51 Which fraction is greater than 1?

(1) $\frac{19}{20}$ (3) $\frac{3}{3}$

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

52 In triangle *ABC* below, what is the ratio *BC*:*AB*?



(1) $\frac{8}{17}$ (3) $\frac{15}{17}$

(2) $\frac{8}{15}$ (4) $\frac{17}{8}$

53 Which two numbers are prime?

(1) 21 and 23 (3) 6 and 8

(2) 13 and 17 (4) 3 and 9

54 How many meters are equal to 20 kilometers?

(1) 200 (3) 2000

(2) 2 (4) 20,000

55 A dress may be purchased for \$79.50 cash or by making a downpayment of \$20 and five equal monthly payments of \$15 each. How much money will be saved by paying cash?

(1) \$24.50 (3) \$15.50

(2) \$16.50 (4) \$14.50

56 What is the best approximation of a 15% tip for a lunch that costs \$4.25?

(1) \$0.15 (3) \$0.65

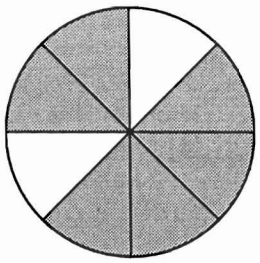
(2) \$0.45 (4) \$1.00

57 What is the value of $2 + 3 \times 4$?

(1) 9 (3) 20

(2) 14 (4) 24

58 What percent of the circle below is shaded?



(1) 75% (3) $13\frac{1}{3}\%$

(2) 60% (4) 6%

59 Which statement best represents the expression $2 - x$?

(1) 2 is less than x
(2) 2 less than x
(3) x less than 2
(4) subtract 2 from x

60 The regular price of a bicycle is \$90. If the bicycle is on sale for 20% off, what is the sale price of the bicycle?

(1) \$70
(2) \$72
(3) \$108
(4) \$110