REGENTS COMPETENCY TEST

MATHEMATICS

Thursday, January 27, 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:
$$\begin{array}{r} 1{,}421 \\ 3 \\ +\ 673 \\ \hline \end{array}$$

2 Write the numeral for twenty-three thousand forty-three.

3 Bus tokens cost $1.25. Hannah has $4.00. What is the greatest number of tokens she can buy?

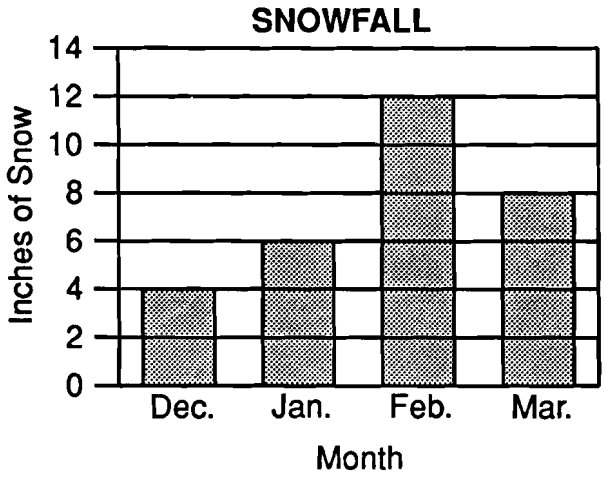
4 Subtract 297 from 6006.

5 Multiply:
$$\begin{array}{r} 406 \\ \times\ 27 \\ \hline \end{array}$$

6 At one tennis match, there were 20,300 spectators. At the next match, there were 2,100 more people in attendance than at the first match. How many people attended the second match?

7 Divide: $8\overline{)856}$

8 The graph below shows the amounts of snowfall for the months of December, January, February, and March. How many more inches of snow fell in February than in December?



9 What is the median of these numbers?

25, 18, 32, 21, 29

10 On five math tests, Jada received grades of 87, 75, 82, 91, and 80. What is the mean (average) of her grades?

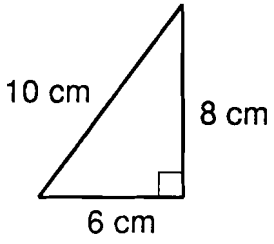
11 If $y = 3$ and $x = 2$, what is the value of $y + 2x$?

12 Reduce $\frac{48}{60}$ to lowest terms.

13 What is the least common denominator of $\frac{1}{2}$, $\frac{1}{5}$, and $\frac{1}{8}$?

14 Add: 27.3 + 55 + 1.25

15 What is the total number of square centimeters in the area of the triangle shown below?



16 What is the sum of +24 and −74?

17 Round 56.887 to the *nearest tenth.*

18 In triangle *ABC*, angle *A* measures 55° and angle *B* measures 98°. How many degrees are in the measure of angle *C*?

19 Solve for x: $3(x + 5) = 27$

20 What is $\frac{2}{5}$ of 40?

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 Each  represents 1,000 people. If Mathville has a population of 5,500 people, which pictograph correctly represents Mathville's population?

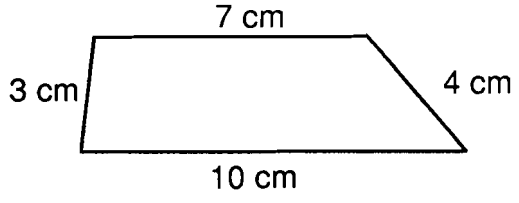
(1) 

(2) 

(3) 

(4) 

22 What is the perimeter of the trapezoid below?



(1) 13 cm
(2) 24 cm
(3) 30 cm
(4) 40 cm

23 Over the next 12 years, Miguel's parents need to save $6,600 for part of his college tuition. How much must they save each year in order to reach that goal?

(1) $550
(2) $660
(3) $6,588
(4) $79,200

24 Mr. Chang had $243.15 in his checking account. After he wrote a check for $29.50, how much money was left in his account?

(1) $186.35
(2) $213.35
(3) $213.65
(4) $272.65

25 A box contains 2 oranges, 4 apples, and 6 peaches. If a student picks one piece of fruit at random from the box, what is the probability that she will choose an apple?

(1) $\frac{1}{4}$
(2) $\frac{2}{12}$
(3) $\frac{4}{12}$
(4) $\frac{6}{12}$

26 Which number is equal to 2^3 ?

(1) 6
(2) 8
(3) 9
(4) 23

27 Which digit is in the hundredths place in the number 9.0248?

(1) 0
(2) 2
(3) 8
(4) 4

28 Solve for x: $\frac{12}{x} = \frac{2}{3}$

(1) 18
(2) 20
(3) 22
(4) 24

29 What is the remainder when 408 is divided by 7?

(1) 1
(2) 2
(3) 3
(4) 4

30 Cheryl bought an electric guitar for $460. She made an $85 downpayment and agreed to make monthly payments of $75 each. How many months will it take her to pay for the guitar?

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

31 The fraction $\frac{3}{4}$ is equivalent to

(1) 0.43
(2) 3.4
(3) 0.34
(4) 0.75

32 A plane left New York at 8:45 a.m. and arrived in Miami 2 hours and 25 minutes later. At what time did the plane arrive in Miami?

(1) 11:10 a.m.
(2) 11:15 a.m.
(3) 11:25 a.m.
(4) 11:45 a.m.

33 The chart below shows the percentage of the U.S. recommended daily allowance (RDA) for different nutrients in one serving of cereal.

PERCENTAGE OF U.S. RDA IN ONE SERVING	
Protein	4%
Vitamin A	20%
Vitamin C	0%
Iron	10%
Vitamin B	25%

What is the smallest number of servings needed to provide 100% of the RDA for vitamin A?

(1) 25
(2) 20
(3) 5
(4) 4

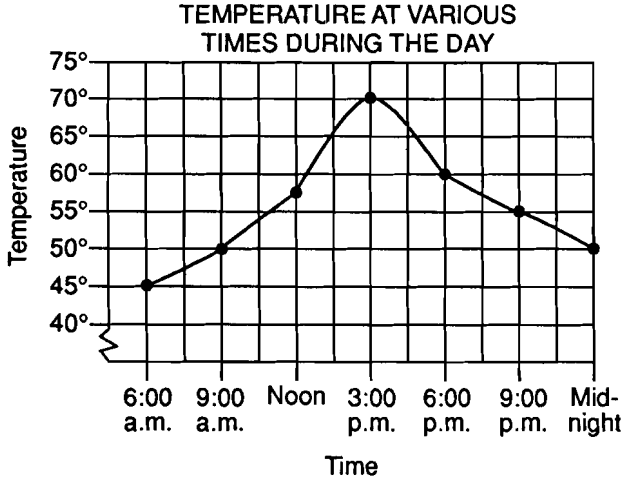
34 Which integer has the greatest value?

(1) -1
(2) -20
(3) -11
(4) -4

35 If 18 out of 20 questions were answered correctly on a test, what percentage of the questions were answered correctly?

(1) 18%
(2) 2%
(3) 72%
(4) 90%

36 The line graph below shows the temperature at various times during the day.



How many degrees did the temperature rise from 6:00 a.m. to 3:00 p.m.?

(1) 10°
(2) 35°
(3) 3°
(4) 25°

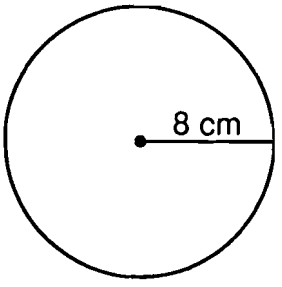
37 The rates for a long-distance telephone call are listed below.

$2.00 for the first 3 minutes
$0.40 for each additional minute

What is the cost of a long-distance call that lasts 6 minutes?

(1) $2.40
(2) $3.20
(3) $7.20
(4) $10.40

38 In the circle below, the length of the radius is 8 centimeters.



What is the length of the diameter?

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

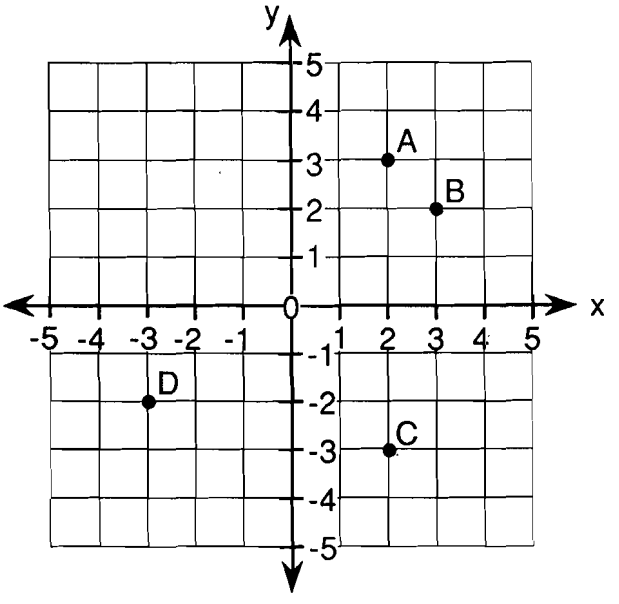
39 Which group of numbers below shows all the factors of 45?

(1) 1, 45
(2) 1, 5, 9, 45
(3) 1, 3, 5, 9, 15, 45
(4) 15, 30, 45, 60, 75, 90

40 What is the total cost of a shirt with a price of $20.00 plus 8% sales tax?

(1) $0.16
(2) $1.60
(3) $20.60
(4) $21.60

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



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

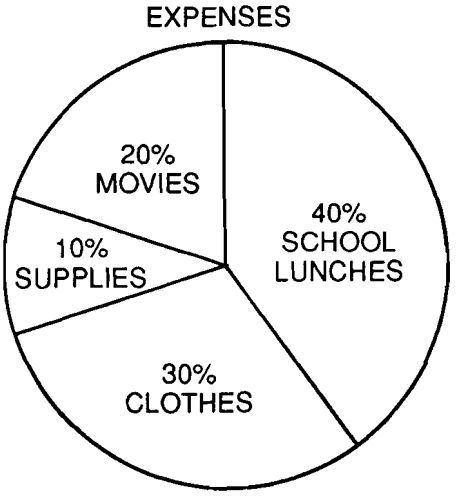
42 Malcolm bought two bags of potato chips that cost 59¢ each. How much change should he receive from a $10 bill?

(1) $11.18
(2) $9.41
(3) $8.82
(4) $1.18

43 Bob's employer pays him 15% commission on each computer he sells. If the price of the computer is $1950, how much commission will Bob receive for each computer sold?

(1) $2242.50
(2) $292.50
(3) $29.25
(4) $15.00

44 The circle graph below shows how a teenager spent $20 one week.



How much did the teenager spend on school lunches?

(1) $8.00
(2) $2.00
(3) $5.00
(4) $4.00

45 Which number has the same value as $\frac{17}{12}$?

(1) $\frac{12}{17}$
(2) $5\frac{5}{12}$
(3) $12\frac{5}{17}$
(4) $1\frac{5}{12}$

46 Which decimal has the greatest value?

(1) 0.25
(2) 0.025
(3) 0.225
(4) 0.02525

47 What is 20% of 70?

(1) 0.14
(2) 14
(3) 140
(4) 1400

48 Eight cans of apple juice cost $2.38. What is the cost, rounded to the nearest cent, of one can of apple juice?

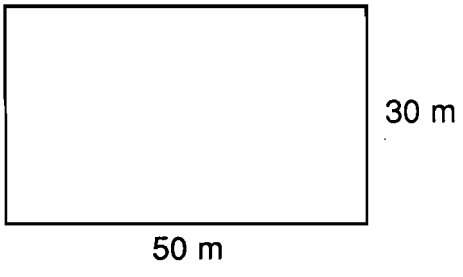
(1) $0.28
(2) $0.29
(3) $0.30
(4) $0.31

49 Subtract:

$$\begin{array}{r} 29\frac{5}{8} \\ 6\frac{7}{8} \\ \hline \end{array}$$

(1) $22\frac{6}{8}$
(2) $23\frac{2}{8}$
(3) $35\frac{2}{8}$
(4) $36\frac{5}{8}$

50 The rectangle shown below represents a cornfield.



What is the area of the field?

(1) 80 m
(2) 160 m
(3) 1,500 m^2
(4) 2,250,000 m^2

51 Which equation represents the statement "2 more than a number is 16"?

(1) $\frac{r}{2} = 16$
(2) $2r = 16$
(3) $r - 2 = 16$
(4) $r + 2 = 16$

52 The ratio of a model train to an actual train is 1 to 87. How long is an actual passenger car if the length of the model car is 0.18 meter?

(1) 1.566 m
(2) 15.66 m
(3) 156.6 m
(4) 1566 m

53 Which is the closest approximation of $\sqrt{85}$?

(1) 8
(2) 9
(3) 10
(4) 81

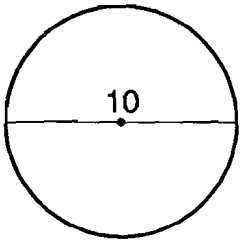
54 An advertisement reads: "Take 10% off the original price of all coats." If the original price of a coat was $135.60, what is the sale price?

(1) $13.56
(2) $121.96
(3) $122.04
(4) $149.16

55 What is the sum of $\frac{3}{5}$ and $\frac{2}{7}$?

(1) $\frac{5}{12}$
(2) $\frac{6}{35}$
(3) $\frac{11}{35}$
(4) $\frac{31}{35}$

56 What is the circumference of a circle with a diameter of 10?



(1) 5π
(2) 10π
(3) 25π
(4) 100π

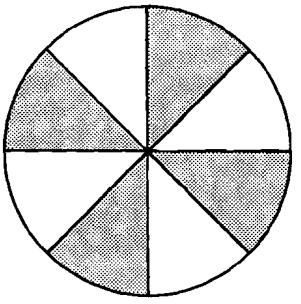
57 How many kilometers are equal to 15,000 meters?

(1) 1.5
(2) 15
(3) 150
(4) 1,500

58 If the probability of team *A* defeating team *B* is $\frac{4}{5}$, then what is the probability of team *A* *not* defeating team *B*?

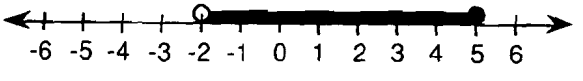
(1) $\frac{1}{5}$
(2) $\frac{2}{5}$
(3) $\frac{4}{5}$
(4) $\frac{5}{4}$

59 What percentage of the circle below is shaded?



(1) 5%
(2) 40%
(3) 50%
(4) 4%

60 Which inequality is represented by the graph below?



(1) $-2 < x < 5$
(2) $-2 \leq x \leq 5$
(3) $-2 < x \leq 5$
(4) $-2 \leq x < 5$