REGENTS COMPETENCY TEST

MATHEMATICS

Thursday, June 19, 2003 — 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 Write the numeral for six thousand eighty-three.

2 Add:
$$567$$
$$42$$
$$+\ 2311$$

3 Divide: $3\overline{)306}$

4 Subtract:
$$5003$$
$$379$$

5 Add: $3.7 + 0.157 + 4.98$

6 Subtract 0.64 from 8.02.

7 Multiply:
$$302$$
$$\times\ 209$$

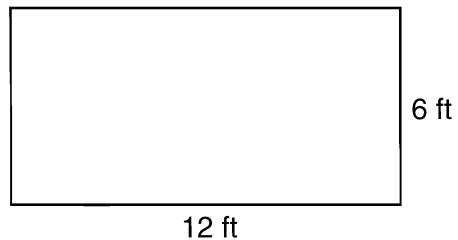**8** Reduce $\dfrac{18}{24}$ to lowest terms.

9 On a scale drawing, 1 centimeter represents 50 meters. How many centimeters represent 350 meters?

10 What is the total number of feet in the perimeter of the rectangle below?

6 ft

12 ft

11 Solve for x: $8x + 4 = 28$

12 Multiply: -5×10

13 Divide: $0.8\overline{)42.4}$

14 What is the mean (average) of 60, 40, 55, 70, and 100?

15 Add: $(-8) + (13)$

16 Multiply: 63.2×100

17 What is the median of these numbers?

25, 18, 32, 21, 29

18 What is the greatest common factor of 16, 24, and 40?

19 In the number 58.132, which digit is in the hundredths place?

**20** Express in simplest form: $6\frac{1}{4} \div 1\frac{1}{4}$

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 Tonya is paid $5.25 per hour at her job. If she works 5 hours, how much does she earn?

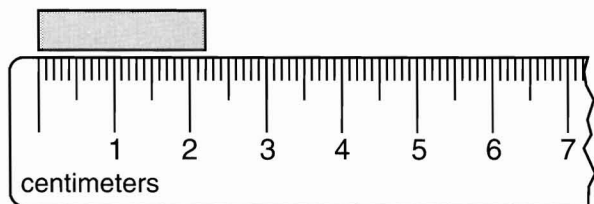(1) $5.25   (3) $25.00
(2) $15.25   (4) $26.25

22 Each compact disc shown below represents 100 discs purchased.
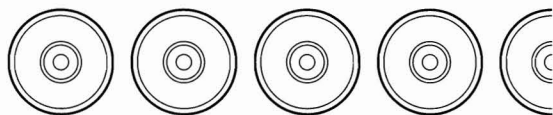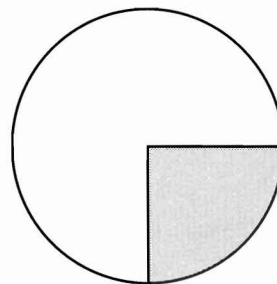

What is the total number of purchases represented?

(1) 425   (3) 475
(2) 450   (4) 500

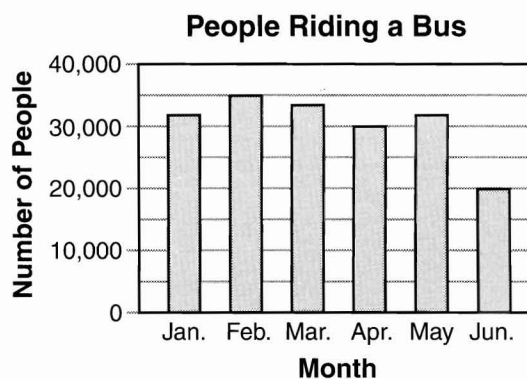**23** What is the length of the bar shown below?

(1) 2.2 cm   (3) 2.2 m
(2) 22 cm   (4) 22 m

24 Approximately what percent of the circle below is shaded?

(1) 25%   (3) 90%
(2) 75%   (4) 270%

25 The graph below shows the number of people in a small city who rode a bus in each of 6 months.

People Riding a Bus

How many more people rode a bus in April than in June?

(1) 100   (3) 5,000
(2) 1,000 (4) 10,000

26 Which number is *not* a factor of 60?

(1) 8   (3) 3
(2) 2   (4) 15

27 What is $62.87 rounded to the nearest dollar?

(1) $62.00   (3) $62.90
(2) $62.80   (4) $63.00

28 Bob is buying a coat that costs $75.00. If the sales tax is 7%, how much tax must he pay?

(1) $5.25   (3) $5.95
(2) $5.65   (4) $6.95

29 Solve for x: $\quad \dfrac{7}{8} = \dfrac{21}{x}$

(1) $18\dfrac{3}{8}$ (3) 3
(2) 24   (4) 32

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

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

31 Which fraction is equal to $\dfrac{2}{3} \times \dfrac{5}{6}$?

(1) $\dfrac{4}{5}$ (3) $\dfrac{7}{9}$
(2) $\dfrac{5}{9}$ (4) $\dfrac{15}{12}$

32 José has five blue ties, two black ties, and four green ties. If he chooses a tie at random, what is the probability that the tie will be blue?

(1) $\dfrac{5}{11}$ (3) $\dfrac{5}{8}$
(2) $\dfrac{5}{10}$ (4) $\dfrac{5}{6}$

33 A newspaper charges the following rates for its classified advertisements:

     First two lines — $9.00
     Each additional line — $4.00

What is the cost of a five-line advertisement?

(1) $29   (3) $20
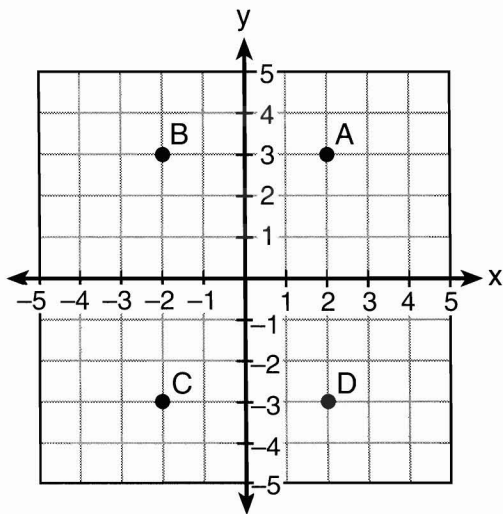(2) $21   (4) $13

34 Which expression has the largest value?

(1) $\sqrt{16}$ (3) 16^2
(2) 16×2 (4) 16

35 Iris bought two pens that cost $0.75 each and a notebook that cost $2.50. She gave the cashier a $10 bill. How much change should she have received?

(1) $3.25   (3) $6.00
(2) $5.75   (4) $4.00

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

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

37 What is the value of 4×10^3?

(1) 40^3 (3) 4,000
(2) 400   (4) 4,103

38 If three pairs of socks cost a total of $9.99, how much would five pairs of socks cost?

(1) $16.65   (3) $3.33
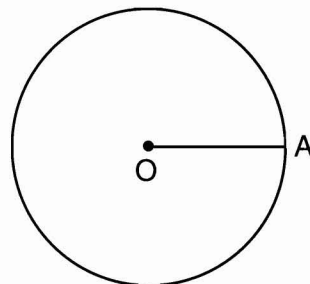(2) $14.99   (4) $8.00

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

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

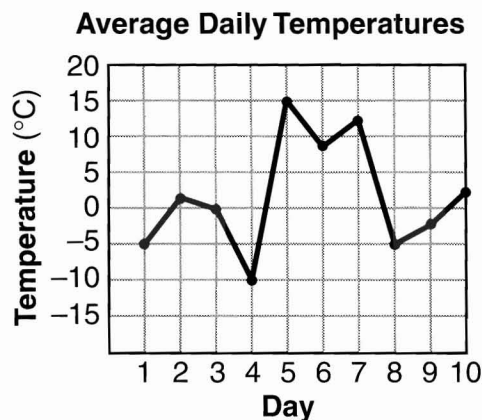**40** What is the sum of $\frac{4}{3}$ and $\frac{5}{3}$?

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

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

41 If O is the center of the circle below, what is line segment OA called?

(1) an arc   (3) a chord
(2) a diameter   (4) a radius

42 The graph below shows the average daily temperature for the first 10 days of February.

Average Daily Temperatures

According to the graph, the *lowest* average temperature was recorded on

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

43 What is the area of the parallelogram shown below?

(1) 120 m²   (3) 34 m²
(2) 60 m²   (4) 30 m²

44 What is the largest number less than 50 that is divisible by 4?

(1) 16   (3) 48
(2) 40   (4) 49

45 Annette buys a used car and agrees to pay $1,000 down and $200 each month for 1 year. What is the total cost of the car?

(1) $1,200   (3) $3,400
(2) $2,400   (4) $12,200
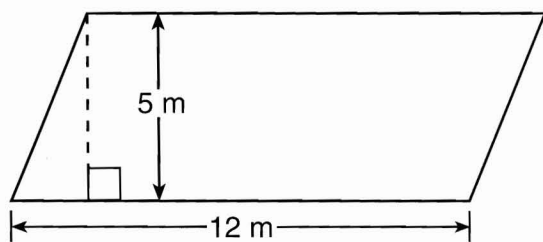
46 Which four integers are listed in order from least to greatest?

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

47 The regular price for a sofa is $600. If the sofa is on sale for 30% off, what is the sale price?

(1) $18   (3) $420
(2) $180   (4) $780

48 Which is the algebraic representation of two more than the product of x and y?

(1) $x + y - 2$ (3) $\frac{x}{y} + 2$
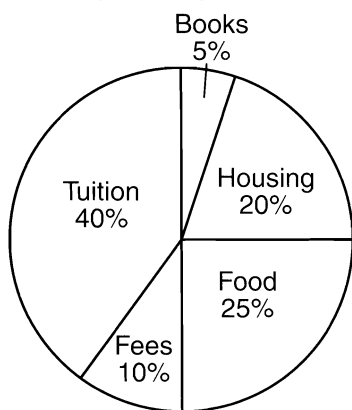(2) $x - y - 2$ (4) $xy + 2$

49 What is 8% of 52?

(1) 416   (3) 4.16
(2) 41.6   (4) 0.416

50 The circle graph below represents yearly college costs.

Yearly College Costs

Books
5%

Tuition
40%

Housing
20%

Food
25%

Fees
10%

If the total yearly cost for college is $20,000, how much money is spent on tuition?

(1) $2,000   (3) $5,000
(2) $4,000   (4) $8,000

51 Terrell's employer pays him a 15% commission on each computer he sells. If the price of a computer is $1,950, how much commission will Terrell receive for each computer he sells?

(1) $2,242.50   (3) $29.25
(2) $292.50   (4) $15.00

52 Kim slept from 10:30 p.m. to 7:15 a.m. The total amount of time that she slept was

(1) 3 hours and 15 minutes
(2) 8 hours and 45 minutes
(3) 9 hours and 15 minutes
(4) 17 hours and 45 minutes

53 Which fraction is greater than $\frac{1}{2}$?

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

(2) $\frac{1}{4}$ (4) $\frac{4}{10}$
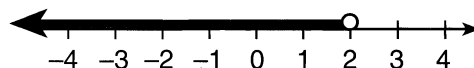
54 In a class of 20 students, 7 are girls. What is the ratio of the number of girls to the number of boys?

(1) 7:13   (3) 13:7
(2) 7:20   (4) 20:7

55 What is the value of V in the formula $V = S + GT$, when $S = 45$, $G = 32$, and $T = 5$?

(1) 82   (●) 205
(2) 195   (4) 385

56 Which inequality is represented by the graph below?

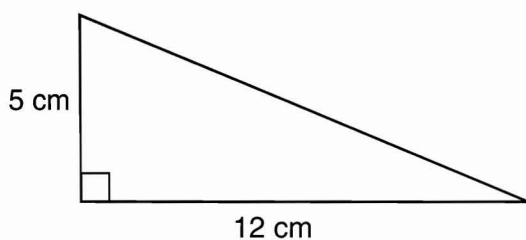(1) $x \geq 2$ (3) $x \leq 2$
(2) $x > 2$ (4) $x < 2$

57 How many meters are equal to 450 centimeters?

(1) 4.5

(3) 450

(2) 45

(4) 45,000

59 Which number is the closest approximation for $\sqrt{80}$?

(1) 8

(3) 10

(2) 9

(4) 40

58 According to the formula $a^2 + b^2 = c^2$, what is the hypotenuse of the right triangle below?

5 cm

12 cm

(1) 13 cm

(3) 60 cm

(2) 17 cm

(4) 169 cm

60 According to the formula $A = \pi r^2$, what is the area of a circle with a radius of 6? [Use $\pi = 3.14$]

(1) 18.84

(3) 113.04

(2) 37.14

(4) 452.16