

The University of the State of New York

REGENTS COMPETENCY TEST

MATHEMATICS

Wednesday, January 29, 1992 — 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.

Copyright 1992
THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
ALBANY, NEW YORK 12234

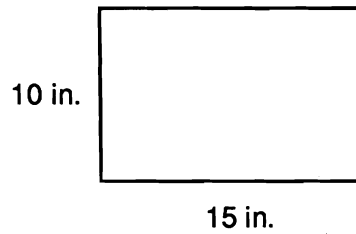
No part of this test may be reproduced and/or transmitted by any means without written permission.

Part A

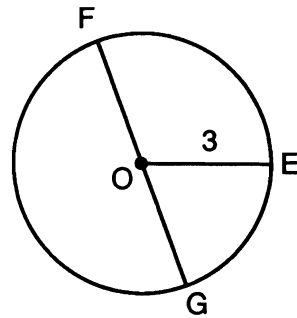
Answer all 20 questions in this part. Write your answers on the lines provided in PART A on the separate answer sheet. Use only a black lead pencil on the answer sheet.

1 Add: $\begin{array}{r} 567 \\ 42 \\ + 2311 \\ \hline \end{array}$	8 Find the mean (average) of the test scores below. 75, 80, 83, 66
2 Divide: $609 \div 3$	9 Add: $(-8) + (-3)$
3 Subtract 1829 from 3000.	10 Gayle wanted to buy shirts that cost \$15 each. She had two \$20 bills and two \$5 bills. What is the greatest number of shirts Gayle could buy?
4 Reduce $\frac{20}{24}$ to lowest terms.	11 What is the mode of the following set of numbers? 9, 12, 10, 9, 11
5 Solve for x: $2x - 8 = 0$	12 From 96.2 subtract 41.
6 Round 42,382 to the nearest thousand.	13 Write the numeral for twelve thousand fifteen.
7 What is the positive square root of 64?	

14 How many inches are in the perimeter of the rectangle below?



17 In the circle below with center O , what is the length of diameter \overline{FG} ?



15 Divide: $14.4 \div 0.3$

18 What is the value of 4^3 ?

16 Grace is buying a television that costs \$360. She makes a downpayment of \$40 and agrees to pay the balance in monthly installments of \$20. How many monthly payments will Grace have to make?

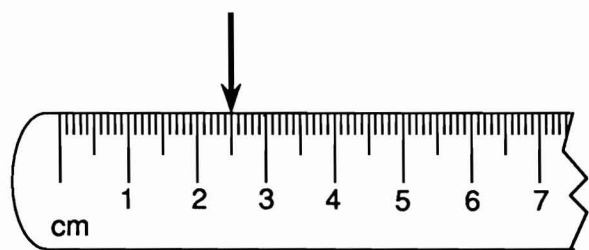
19 Divide: $300 \div (-25)$

20 Multiply: 7.2×6.9

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 Which location on the ruler is indicated by the arrow?



- (1) 0.5 cm (3) 1.5 cm
(2) 2 cm (4) 2.5 cm

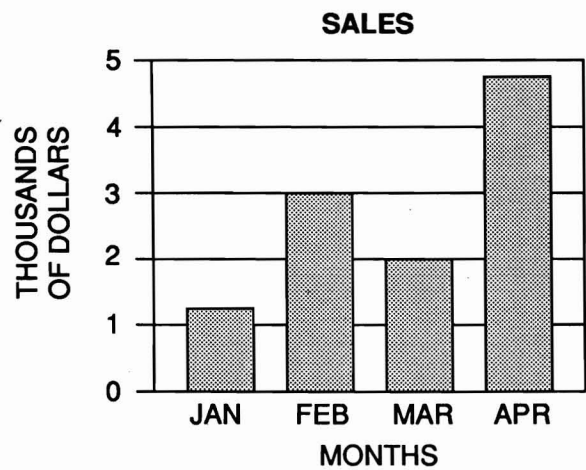
23 Which number below is *not* divisible by 6?

- (1) 40 (3) 18
(2) 36 (4) 12

24 Which number is equal to $\frac{17}{3}$?

- (1) $5\frac{3}{17}$ (3) $5\frac{2}{3}$
(2) $5\frac{1}{3}$ (4) $6\frac{1}{3}$

22 The graph below shows the monthly sales total for an insurance salesperson.



In which month was there the greatest increase in sales from the previous month?

- (1) Jan (3) Mar
(2) Feb (4) Apr

25 A total of 300 raffle tickets were given out. One ticket will be picked at random to win a prize. If Bill has five tickets, what is the probability that he will win the prize?

- (1) $\frac{5}{300}$ (3) $\frac{5}{305}$
(2) $\frac{1}{300}$ (4) $\frac{295}{300}$

26 What is the greatest common factor of 18 and 24?

- (1) 12 (3) 3
(2) 6 (4) 24

27 Solve for x : $\frac{5}{8} = \frac{x}{32}$

- (1) 29 (3) 20
(2) 25 (4) 4

28 Which letter represents $1\frac{2}{3}$ on the number line below?



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

29 Sancho earns \$20 each week at his part-time job. If he spends \$7 each week for snacks, what fractional part of his earnings does he spend for those snacks?

- (1) $\frac{7}{20}$ (3) $\frac{20}{27}$
(2) $\frac{20}{7}$ (4) $\frac{27}{20}$

30 Written as a percent, the fraction $\frac{1}{4}$ is equal to

- (1) 14% (3) 40%
(2) 25% (4) 41%

31 On a map, 1 inch represents 10 miles. If two cities are $3\frac{1}{2}$ inches apart on this map, how many miles apart are these two cities?

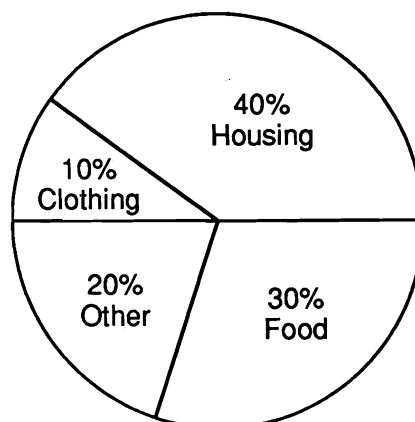
- (1) $13\frac{1}{2}$ miles (3) 40 miles
(2) 35 miles (4) 45 miles

32 What is the least common denominator of $\frac{2}{3}$, $\frac{1}{2}$, and $\frac{3}{4}$?

- (1) 6 (3) 12
(2) 8 (4) 16

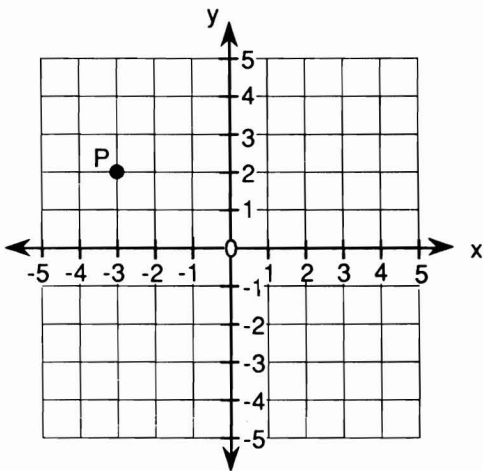
33 The graph below shows how Sara spends her monthly income of \$600.

BUDGET



How much money does Sara spend for food each month?

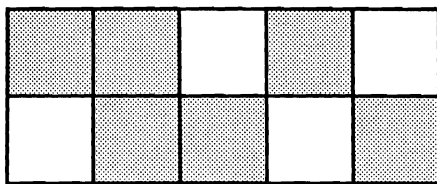
- (1) \$18 (3) \$180
(2) \$20 (4) \$1800

<p>34 Which is <i>not</i> a prime number?</p> <p>(1) 14 (3) 7 (2) 11 (4) 5</p>	<p>39 On the graph below, what are the coordinates of point P?</p>  <p>(1) (3,2) (3) (-3,2) (2) (3,-2) (4) (-3,-2)</p>
<p>35 The cost of renting a boat is \$25 for the first hour and \$10 per hour for each additional hour. What is the cost of renting a boat for 5 hours?</p> <p>(1) \$50 (3) \$75 (2) \$65 (4) \$125</p>	<p>40 Lou is paid according to the following pay schedule:</p> <p style="padding-left: 40px;">\$8.00 an hour up to 40 hours per week \$12.00 an hour for all hours worked over 40 per week</p> <p>How much did Lou earn last week if he worked a total of 52 hours?</p> <p>(1) \$320.00 (3) \$416.00 (2) \$332.00 (4) \$464.00</p>
<p>36 Brenda earns a 20% commission for selling bikes at a local bike shop. If her sales for last week totaled \$550, how much commission did Brenda earn?</p> <p>(1) \$10.00 (3) \$100.00 (2) \$11.00 (4) \$110.00</p>	<p>41 Evaluate: $6 \times 4 - 3 \times 2$</p> <p>(1) 12 (3) 24 (2) 18 (4) 42</p>
<p>37 If the sales tax rate is 6%, what is the amount of sales tax on a coat that costs \$72?</p> <p>(1) \$0.43 (3) \$12.00 (2) \$4.32 (4) \$43.20</p>	<p>38 Alonzo buys 10 pens that are on sale at 3 for \$1.20. How much will 10 pens cost?</p> <p>(1) \$5.00 (3) \$3.00 (2) \$3.50 (4) \$4.00</p>

42 Which set could represent the measures of the angles of a triangle?

- (1) $40^\circ, 40^\circ, 70^\circ$
- (2) $60^\circ, 60^\circ, 50^\circ$
- (3) $120^\circ, 50^\circ, 10^\circ$
- (4) $140^\circ, 120^\circ, 100^\circ$

43 What percent of the rectangle below is shaded?



- (1) 4%
- (2) 6%
- (3) 40%
- (4) 60%

44 Which group of decimals is arranged in order from smallest to largest?

- (1) 0.3, 0.03, 3.0
- (2) 0.03, 3.0, 0.3
- (3) 0.03, 0.3, 3.0
- (4) 3.0, 0.03, 0.3

45 Which fraction has the greatest value?

- (1) $\frac{2}{15}$
- (2) $\frac{2}{5}$
- (3) $\frac{2}{10}$
- (4) $\frac{2}{9}$

46 What is the value of $\frac{x + y}{z}$ when $x = -12$, $y = -4$, and $z = 8$?

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

47 What is the sum of $6\frac{1}{4}$ and $10\frac{7}{8}$?

- (1) $4\frac{5}{8}$
- (2) $16\frac{8}{12}$
- (3) $17\frac{1}{8}$
- (4) $17\frac{1}{4}$

48 Which expression represents “three less than the product of two and N ”?

- (1) $2N - 3$
- (2) $\frac{N}{2} - 3$
- (3) $2(N - 3)$
- (4) $2 + N - 3$

49 What is the prime factorization of 30?

- (1) $3 \times 2 \times 5$
- (2) $3 \times 3 \times 2$
- (3) 3×10
- (4) 5×6

50 Twenty-five is 10% of which number?

- (1) 2.5
- (2) 25
- (3) 100
- (4) 250

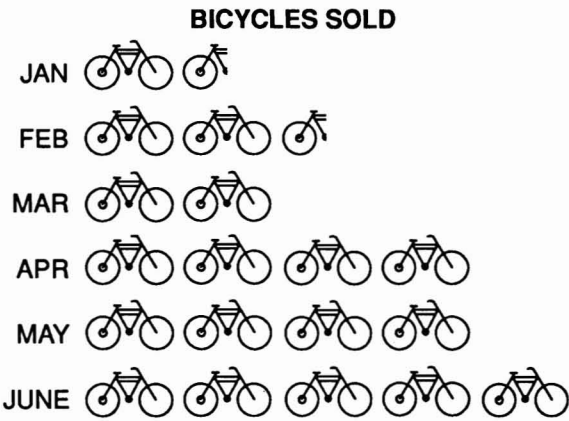
51 What is the circumference of a circle whose radius is 5? (Use $C = 2\pi r$ and $\pi = 3.14$)

- (1) 15.70
- (2) 31.40
- (3) 62.80
- (4) 78.50

54 The regular price of a pair of sneakers is \$140. If the sneakers are on sale for 40% off, what is the sale price?

- (1) \$56
- (2) \$84
- (3) \$100
- (4) \$134.40

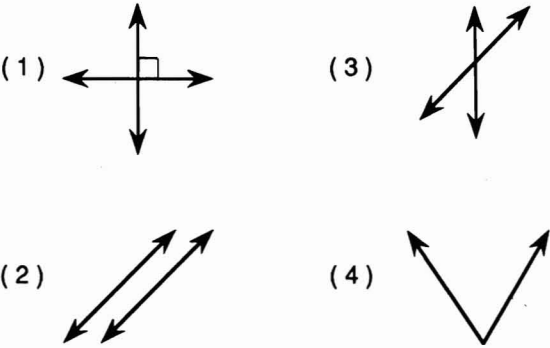
52 Each bicycle below represents 250 bicycles sold by a company.



How many more bicycles were sold in June than in March?

- (1) 125
- (2) 250
- (3) 625
- (4) 750

55 Which drawing shows perpendicular lines?



56 How many centimeters are equal to 40 meters?

- (1) 40
- (2) 400
- (3) 4,000
- (4) 40,000

53 Which inequality is shown by the graph below?

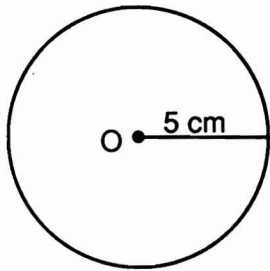


- (1) $x > -3$
- (2) $x \geq -3$
- (3) $x < -3$
- (4) $x \leq -3$

57 A bank offers its customers 6.5% annual interest on their savings accounts. If Nina has \$1000 in her account for 1 year, how much interest will she earn?

- (1) \$6.50
- (2) \$65.00
- (3) \$650.00
- (4) \$6500.00

58 Using the formula $A = \pi r^2$, what is the area of the circle below?



- (1) $5\pi \text{ cm}^2$
- (2) $10\pi \text{ cm}^2$
- (3) $25\pi \text{ cm}^2$
- (4) $100\pi \text{ cm}^2$

59 What is the area of the square shown below?



- (1) 6 sq in
- (2) 9 sq in
- (3) 12 sq in
- (4) 27 sq in

60 Which measurement has the greatest length?

- (1) 30 inches
- (2) 1 yard
- (3) 2 feet
- (4) 1 meter