

REGENTS COMPETENCY TEST

MATHEMATICS

Monday, June 24, 2002 — 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.

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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:

$$\begin{array}{r} 4721 \\ 3066 \\ + 5814 \\ \hline \end{array}$$

7 On a map, 1 inch represents 40 miles.
How many inches represent 240 miles?

2 What is 13,482 rounded to the nearest thousand?

8 Add: $15.7 + 3.09$

3 Reduce $\frac{24}{32}$ to lowest terms.

9 From 906 subtract 87.

4 Subtract:

$$\begin{array}{r} 7.362 \\ 2.593 \\ \hline \end{array}$$

10 What is the remainder when 6,040 is divided by 12?

5 One side of a square measures 7 centimeters. What is the total number of centimeters in the perimeter of the square?

11 Solve the following equation for x :

$$3x + 2 = 20$$

6 Write $\frac{19}{6}$ as a mixed number in simplest form.

12 Find the median of these numbers:

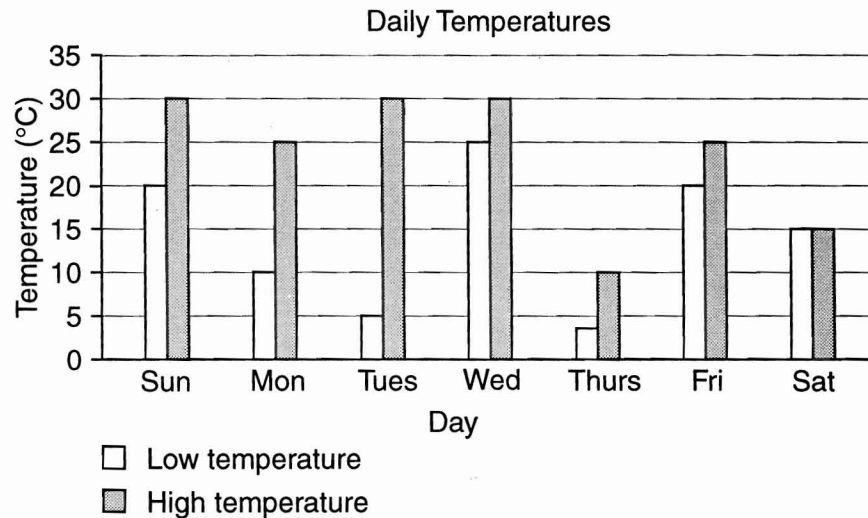
70, 74, 80, 82, 84

13 Divide: $0.3 \overline{)186.9}$	17 What is the sum of -46 and $+20$?
14 Multiply: 3.7×0.08	18 Find the product of 465 and 24 .
15 Multiply: $(-7) \times (-3)$	19 Subtract: $\begin{array}{r} 8 \\ 2\frac{1}{2} \\ \hline \end{array}$
16 On five tests, Jada received grades of 87 , 75 , 82 , 91 , and 80 . What is the mean (average) of her grades?	20 Divide: $\frac{1}{2} \div 5$

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.

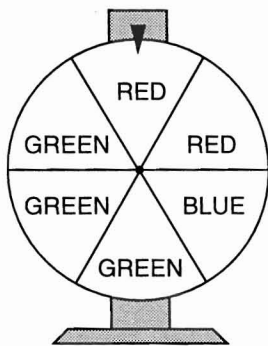
- 21 The graph below shows the daily high and low temperatures for one week.




Which day had the greatest temperature change?

- (1) Sunday
 (2) Monday
 (3) Tuesday
 (4) Friday

- 22 If the color wheel below is spun once, what is the probability that the blue section will stop at the top of the wheel?



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

- 23 In the diagram below, each  represents 100 miles of highway.



The total number of miles represented is

- (1) 400
 (2) 450
 (3) 500
 (4) 550

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

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

25 The chart below shows the average monthly temperature for certain cities in the United States.

Average Monthly Temperature (°F)

	Juneau, Alaska	Nashville, Tennessee	Miami, Florida	San Francisco, California
Jan	-11	42	68	50
Feb	0	44	68	53
Mar	9	53	71	54
Apr	29	62	74	56
May	47	70	77	57
June	58	78	80	59
July	60	81	82	59
Aug	55	80	82	59
Sept	44	74	81	62
Oct	27	63	78	61
Nov	3	52	72	57
Dec	-8	44	69	52

What is the average monthly temperature for August in Miami, Florida?

- (1) 68 (3) 81
(2) 80 (4) 82

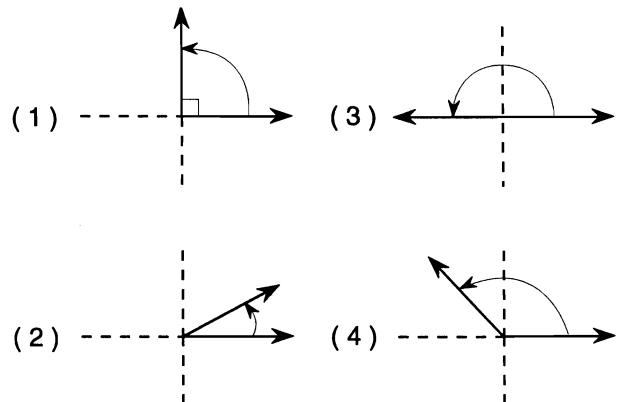
26 Solve for y : $\frac{7}{12} = \frac{y}{48}$

- (1) $1\frac{3}{4}$ (3) 28
(2) 2 (4) 4

27 A cake takes 50 minutes to bake. If Joan puts the cake in the oven at 12:25 p.m., when will the cake be done?

- (1) 12:50 p.m. (3) 1:15 p.m.
(2) 1:05 p.m. (4) 1:20 p.m.

28 Which diagram represents an acute angle?



29 Which is the algebraic expression for 3 times a number, x , decreased by 6?

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

30 Virgil rents three videotapes at \$1.29 each. If he gives the cashier a \$20 bill, how much change should he receive?

- (1) \$16.13 (3) \$18.71
(2) \$17.23 (4) \$19.56

31 What is the greatest number of shirts that can be purchased with \$100.00 if each shirt costs \$12.00?

- (1) 8 (3) 10
(2) 9 (4) 12

32 When Marty adds $5\frac{3}{4}$ and $2\frac{1}{12}$, which number should he use as a common denominator?

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

33 What is the positive square root of 49?

- (1) 4.9 (3) 24.5
(2) 7 (4) 2,401

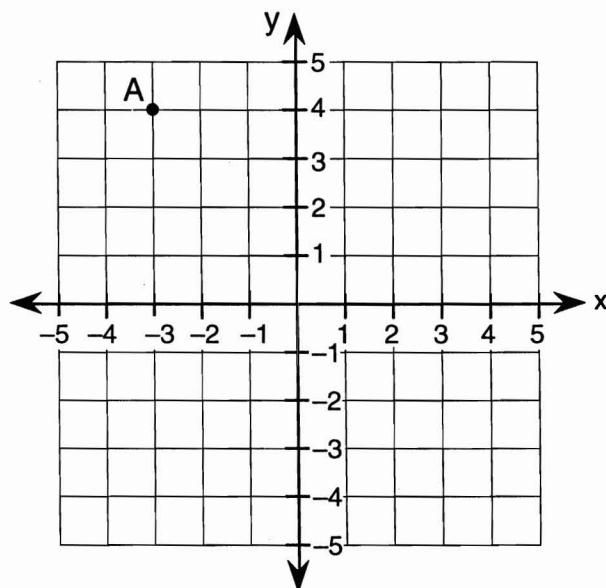
34 Which number has the greatest value?

- (1) 0 (3) -5
(2) -12 (4) -8

35 Which number is equal to 2^4 ?

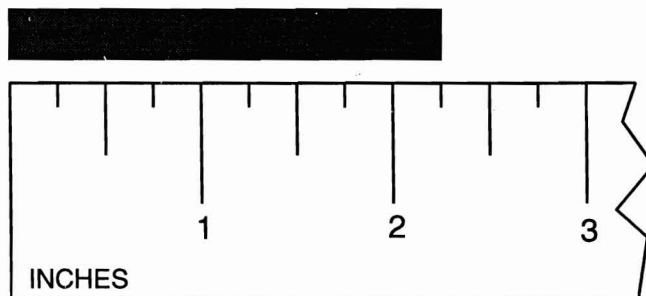
- (1) 6 (3) 16
(2) 8 (4) 24

36 On the graph below, what are the coordinates of point A?



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

37 What is the length of the bar shown below?



- (1) $2\frac{1}{2}$ in (3) $2\frac{1}{16}$ in
(2) 2 in (4) $2\frac{1}{4}$ in

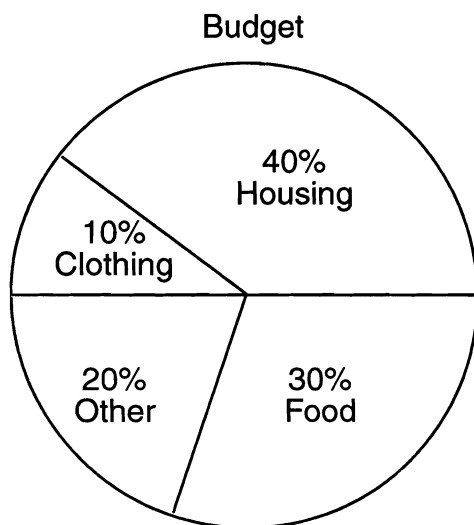
38 Hakeem purchased a bicycle that cost \$200. If the rate of sales tax is 8%, how much sales tax did he pay?

- (1) \$8 (3) \$184
(2) \$16 (4) \$216

39 Which fraction has the greatest value?

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

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



How much money does Sara spend for food each month?

- (1) \$18 (3) \$180
(2) \$20 (4) \$1,800

41 Boyd is buying a car. He has agreed to pay \$5,000 down and \$300 per month for 2 years. What is the total cost of the car?

- (1) \$5,300 (3) \$11,000
(2) \$5,600 (4) \$12,200

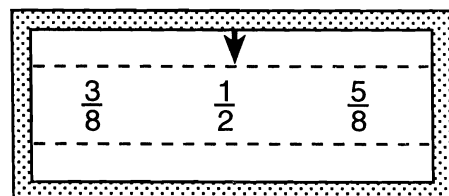
42 A job pays \$5.50 an hour for the first 40 hours per week and \$8.25 an hour for overtime. If Wenona worked 52 hours last week, how much was she paid?

- (1) \$99.00 (3) \$319.00
(2) \$220.00 (4) \$429.00

43 Lenora had \$432.50 in her checking account. She deposited \$83 and wrote a check for \$104. What is her current account balance?

- (1) \$311.50 (3) \$453.50
(2) \$411.50 (4) \$619.50

44 The drawing below shows a gauge for a home heating oil tank. When full, the tank contains 500 gallons of oil.



Approximately how many gallons of oil does the gauge show that the tank now contains?

- (1) 150 (3) 260
(2) 230 (4) 450

45 Which is a composite number?

- (1) 13 (3) 17
- (2) 15 (4) 19

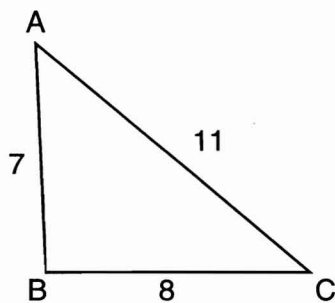
46 Which metric unit is the *shortest* length?

- (1) 1 meter (3) 1 kilometer
- (2) 1 centimeter (4) 1 millimeter

47 If 3 pens cost \$1.20, how much will 10 pens cost?

- (1) \$5.00 (3) \$3.00
- (2) \$3.50 (4) \$4.00

48 In $\triangle ABC$ below, what is the ratio of side AB to side AC ?



- (1) $\frac{7}{11}$ (3) $\frac{8}{11}$
- (2) $\frac{7}{8}$ (4) $\frac{11}{7}$

49 A coat was originally priced at \$120. If the coat is on sale for $\frac{1}{3}$ off the original price, how much will be deducted from the original price of the coat?

- (1) \$40 (3) \$117
- (2) \$80 (4) \$160

50 Which digit in the number 12.89 is in the hundredths place?

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

51 What percent of the rectangle below is shaded?



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

52 Given the formula: $C = \frac{5}{9}(F - 32)$

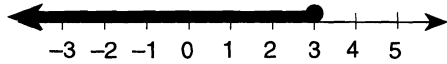
What is the Celsius temperature (C) when the Fahrenheit temperature (F) is 77°F?

- (1) 2°C (3) 25°C
- (2) 10°C (4) 102°C

53 Seventeen is 85% of what number?

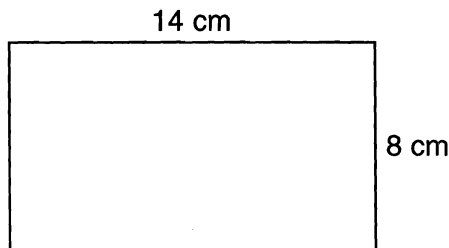
- (1) 5
- (2) 15
- (3) 20
- (4) 102

54 Which inequality is represented by the graph below?



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

55 What is the area of the rectangle below?



- (1) 22 cm^2
- (2) 44 cm^2
- (3) 112 cm^2
- (4) 224 cm^2

56 To sell his used bicycle, Leo placed an advertisement in the local newspaper. The paper charged \$2.50 for the first 10 words and \$0.12 for each additional word. What was the cost if Leo's advertisement was 22 words?

- (1) \$2.64
- (2) \$3.94
- (3) \$5.00
- (4) \$5.24

57 A car salesperson is paid a 3% commission on all sales. If she sells a car for \$11,580, what would be her commission?

- (1) \$337.40
- (2) \$347.40
- (3) \$3,374.00
- (4) \$3,474.00

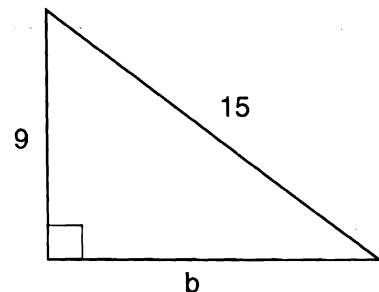
58 Evaluate: $4.5 + 6 \times 3 - 1$

- (1) 16
- (2) 21
- (3) 21.5
- (4) 30.5

59 Based on the formula $A = \pi r^2$, what is the area of a circle whose radius is 7 centimeters? (Use $\pi = \frac{22}{7}$)

- (1) 14 cm^2
- (2) 22 cm^2
- (3) 44 cm^2
- (4) 154 cm^2

60 Based on the formula $a^2 + b^2 = c^2$, what is the value of b in the right triangle below?



- (1) 6
- (2) 12
- (3) 24
- (4) 144