

REGENTS COMPETENCY TEST

MATHEMATICS

Friday, June 18, 2004 — 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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THE STATE EDUCATION DEPARTMENT
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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 Write the numeral for five thousand ninety-two.

- 6 Subtract 25.7 from 42.3.

2 Add:

$$\begin{array}{r} 1421 \\ 3 \\ + 673 \\ \hline \end{array}$$

- 7 Allyson wants to buy a television that costs \$350. She agrees to make a downpayment of \$50 on the purchase and pay the remaining balance in monthly installments of \$60 each. How many monthly installments must Allyson make to pay for the television?

- 3 What fractional part of the figure below is shaded?

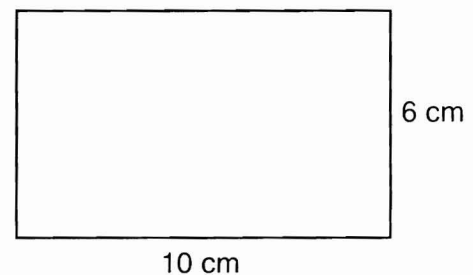


8 Multiply:

$$\begin{array}{r} 307 \\ \times 56 \\ \hline \end{array}$$

- 4 José has \$20.00. What is the greatest number of packages of notebook paper he can buy if each package costs \$3.00?

- 9 What is the number of centimeters in the perimeter of the rectangle below?



5 Subtract:

$$\begin{array}{r} 5000 \\ 3876 \\ \hline \end{array}$$

10 Add: $(-10) + (4)$

11 What is the mode of the following group of numbers?

3, 8, 2, 9, 8, 8, 7, 3

12 Divide: $1.3 \overline{)1.69}$

13 Listed below are Ted's biology test scores for 1 month. What was Ted's mean (average) test score in biology that month?

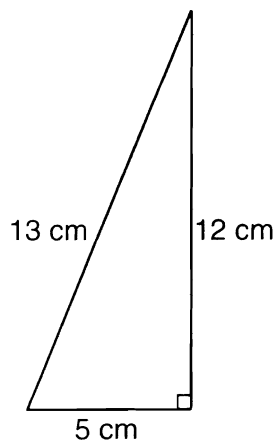
60, 72, 80, 80, 98

14 Solve for p : $7p - 3 = 18$

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

16 Find the sum of $\frac{1}{8}$ and $\frac{2}{3}$.

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



18 If the probability that it will rain is $\frac{3}{10}$, what is the probability that it will *not* rain?

19 Subtract: $8 \frac{1}{5}$

20 Given the formula $A = \frac{1}{2}h(b + c)$.
If $h = 8$, $b = 5$, and $c = 2$, what is the value of A ?

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 Add: $3.15 + 6.5 + 0.38$

- (1) 3.18 (3) 9.03
(2) 4.18 (4) 10.03

22 On a map, 1 inch represents 25 miles. How many miles are represented by 5 inches?

- (1) 1 (3) 25
(2) 5 (4) 125

23 On a pictograph, each  represents 100 acres of forest. How many of these symbols are needed to represent 450 acres of forest?

- (1) $4\frac{1}{2}$ (3) 100
(2) $5\frac{1}{2}$ (4) 450

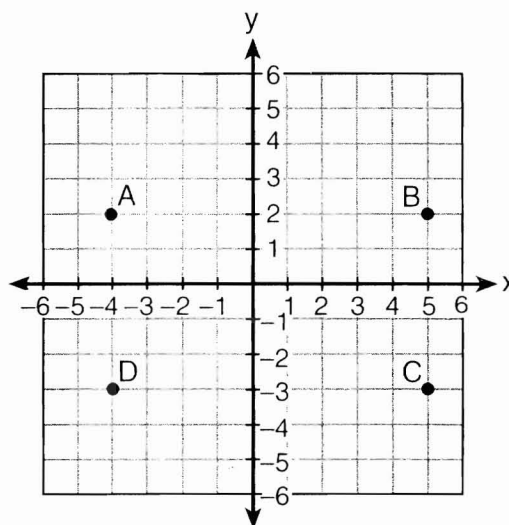
24 Which fraction is equivalent to $2\frac{7}{9}$?

- (1) $\frac{25}{9}$ (3) $\frac{18}{9}$
(2) $\frac{23}{9}$ (4) $\frac{16}{9}$

25 If Tyrisha earns \$7.50 an hour, how much will she earn in 12 hours?

- (1) \$60 (3) \$90
(2) \$75 (4) \$105

26 On the graph below, which letter is located at coordinates (5,2)?

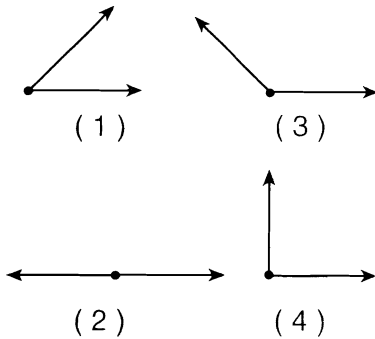


- (1) A (3) C
(2) B (4) D

27 When 145 is divided by 4, what is the remainder?

- (1) 1 (3) 144
(2) 10 (4) 4

28 Which figure best represents a right angle?



32 Solve for x : $\frac{3}{5} = \frac{x}{20}$

- (1) 15 (3) 9
(2) 12 (4) 4

33 The distance between two cities is approximately 257 miles. What is this distance rounded to the nearest 10 miles?

- (1) 200 miles (3) 260 miles
(2) 250 miles (4) 300 miles

29 If a train travels at an average speed of 80 miles per hour, how many miles will it travel in 8 hours?

- (1) 10 (3) 640
(2) 88 (4) 648

34 What is the least common denominator of the fractions $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{5}$?

- (1) 8 (3) 20
(2) 10 (4) 40

30 What is a value of $\sqrt{64}$?

- (1) 8 (3) 32
(2) 16 (4) 4

35 Which is *not* a prime number?

- (1) 25 (3) 13
(2) 19 (4) 7

31 What is the best approximation for 302 times 487?

- (1) 12,000 (3) 1,200,000
(2) 150,000 (4) 1,500,000

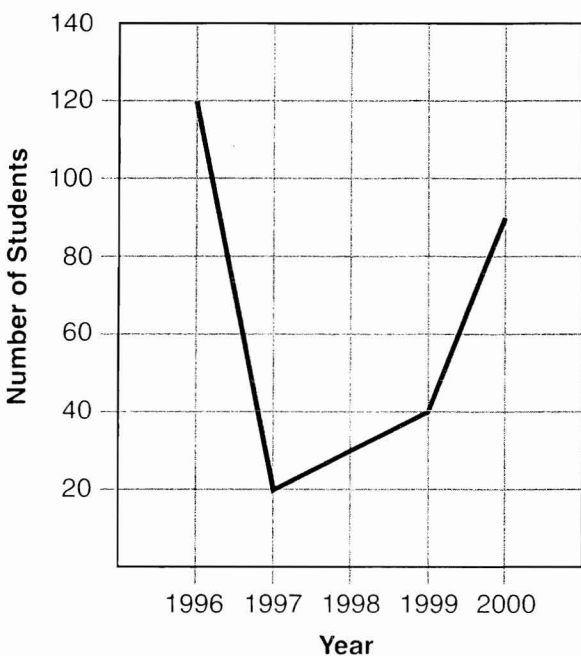
36 Nicole had \$120 in her checking account. She deposited \$50 and then wrote a check for \$30. What was the new balance in her account?

- (1) \$100 (3) \$140
(2) \$200 (4) \$40

<p>37 The temperature at noon was $+2^{\circ}\text{C}$. The temperature had dropped 6 degrees by 2 p.m. What was the temperature at 2 p.m.?</p> <p>(1) -8°C (3) -4°C (2) 8°C (4) 4°C</p>	<p>42 Jason spent $1\frac{1}{2}$ hours practicing soccer each day for 5 days. What is the total number of hours Jason practiced?</p> <p>(1) $3\frac{1}{3}$ (3) $6\frac{1}{2}$ (2) $3\frac{1}{2}$ (4) $7\frac{1}{2}$</p>
<p>38 A card company pays its salespeople a commission of 15% on all sales. Paula sold \$350 worth of cards. What is the amount of her commission?</p> <p>(1) \$15.00 (3) \$335.00 (2) \$52.50 (4) \$525.00</p>	<p>43 The original price of a skirt was \$30. The skirt is on sale for 15% off. What is the sale price?</p> <p>(1) \$4.50 (3) \$34.50 (2) \$25.50 (4) \$45.00</p>
<p>39 What is the value of 6^3?</p> <p>(1) 9 (3) 42 (2) 18 (4) 216</p>	<p>44 Which number is less than -3?</p> <p>(1) $+1$ (3) -4 (2) -1 (4) $+4$</p>
<p>40 Maria bought ten 15-cent pencils. How much change should she have received from a 5-dollar bill?</p> <p>(1) \$4.50 (3) \$2.50 (2) \$3.50 (4) \$1.50</p>	<p>45 What is the approximate length of a new pencil?</p> <p>(1) 18 centimeters (3) 18 millimeters (2) 18 meters (4) 18 kilometers</p>
<p>41 If four cans of lemonade sell for \$2.00, what is the cost of two cans?</p> <p>(1) \$0.50 (3) \$1.50 (2) \$1.00 (4) \$4.00</p>	<p>46 The product of 13.2 and 9.4 is</p> <p>(1) 1.2408 (3) 124.08 (2) 12.408 (4) 1,240.8</p>

- 47 The line graph below shows the number of students attending a summer camp.

Summer Camp Attendance



How many more students attended the camp in 2000 than in 1998?

- (1) 50 (3) 70
(2) 60 (4) 80

- 48 If the circumference of a circle is 16π , what is the length of the radius?

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

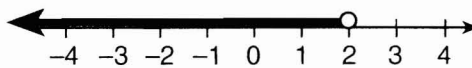
- 49 If the sales tax rate is 6%, what is the amount of sales tax on a coat that costs \$72?

- (1) \$0.43 (3) \$12.00
(2) \$4.32 (4) \$43.20

- 50 In a recent election for class president, Dave received 79 votes, and Carol received 91 votes. What is the ratio of Dave's votes to Carol's votes?

- (1) 91:79 (3) 170:79
(2) 91:170 (4) 79:91

- 51 Which inequality is shown by the graph below?



- (1) $x < 2$ (3) $x \geq 2$
(2) $x > 2$ (4) $x + 2 > 0$

- 52 Which is an algebraic expression for 7 decreased by 5 times a number?

- (1) $7 - 5x$ (3) $\frac{5x}{7}$
(2) $5x - 7$ (4) $7 - x$

- 53 In the number 82.34, which digit is in the hundredths place?

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

54 Sticks of candy cost 3 cents each. Which table shows this relationship?

Number of Sticks	Total Cost (cents)
0	0
2	6
4	12

(1)

Number of Sticks	Total Cost (cents)
0	0
2	4
4	8

(3)

Number of Sticks	Total Cost (cents)
0	3
2	3
4	3

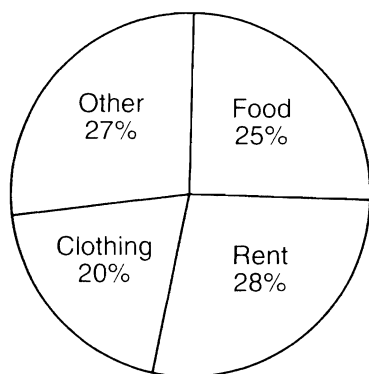
(2)

Number of Sticks	Total Cost (cents)
0	0
6	2
12	4

(4)

55 The circle graph below shows how Stefan spent his salary of \$12,000 last year.

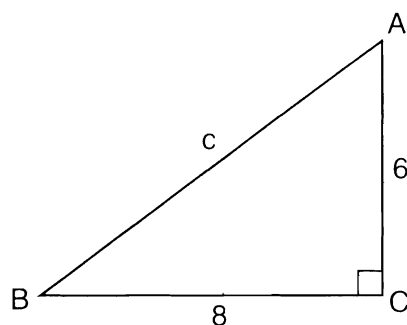
Stefan's Expenses



How much did he spend on food?

- (1) \$2,500 (3) \$3,000
 (2) \$6,000 (4) \$9,000

56 In the triangle below, $AC = 6$ and $CB = 8$. What is the value of c ? [Use the formula $a^2 + b^2 = c^2$.]



- (1) 6 (3) 17
 (2) 10 (4) 43

57 Katie took a test that had 72 questions. She got 18 questions wrong. What percent of the questions did she get wrong?

- (1) 18% (3) 72%
- (2) 25% (4) 75%

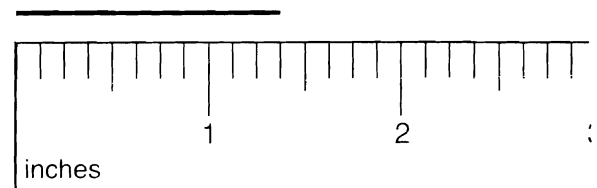
59 Which group of decimals is arranged from smallest to largest?

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

58 Pat took a hike in the woods. She started her hike at 9:45 a.m. and finished at 2:15 p.m. How long did she hike?

- (1) 12 hours 30 minutes
- (2) 7 hours 30 minutes
- (3) 5 hours 30 minutes
- (4) 4 hours 30 minutes

60 What is the measure of the line segment below?



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