REGENTS COMPETENCY TEST

MATHEMATICS

Friday, June 18, 1999 — 1:15 p.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:
$$\begin{array}{r} 76 \\ 385 \\ +\ 463 \\ \hline \end{array}$$

2 Subtract 85 from 942.

3 Write the numeral for four thousand ten.

4 Subtract 4.2 from 9.68.

5 Solve for x: $3x - 4 = 17$

6 Multiply:
$$\begin{array}{r} 206 \\ \times\ 42 \\ \hline \end{array}$$

7 Add: $16 + 1.07 + 4.2$

8 Multiply: $(-4) \times 6$

9 Reduce $\frac{18}{24}$ to lowest terms.

10 What is the mode of the numbers below?
80, 70, 80, 90, 60, 85, 85, 90, 80

11 Add: $(-8) + 6$

12 Multiply: $\frac{3}{4} \times \frac{5}{7}$

13 What is the mean (average) of 24, 56, 78, 99, and 43?

14 Divide: $22\overline{)8844}$

15 Write 43% as a common fraction.	**18** Add: $\frac{3}{8} + \frac{1}{4}$
16 Multiply: $\begin{array}{r} 4.3 \\ \times\ 8.2 \\ \hline \end{array}$	**19** What is the largest number less than 78 that is divisible by 13?
17 What is the greatest common factor (GCF) of 16, 24, and 32?	**20** Divide: $0.7\overline{)1.687}$

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 circle graph below shows how the Spooner family spends its monthly income.

In which area do the Spooners spend the *least* amount of money?

(1) savings
(2) food
(3) clothing
(4) movies

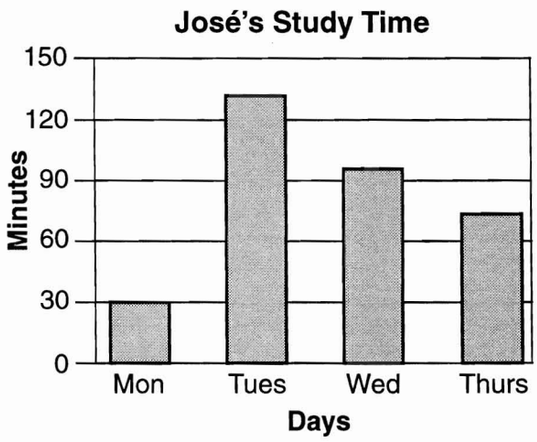
22 What is the place value for the digit 7 in the number 507,342?

(1) tens
(2) hundreds
(3) thousands
(4) ten thousands

23 If it takes Sam 45 minutes to get to school, what is the latest time he can leave home to get to school by 9:00 a.m.?

(1) 7:45 a.m.
(2) 8:15 a.m.
(3) 8:45 a.m.
(4) 9:45 a.m.

24 The bar graph below shows the amount of time José studied during the week.



On which day did he study approximately 90 minutes?

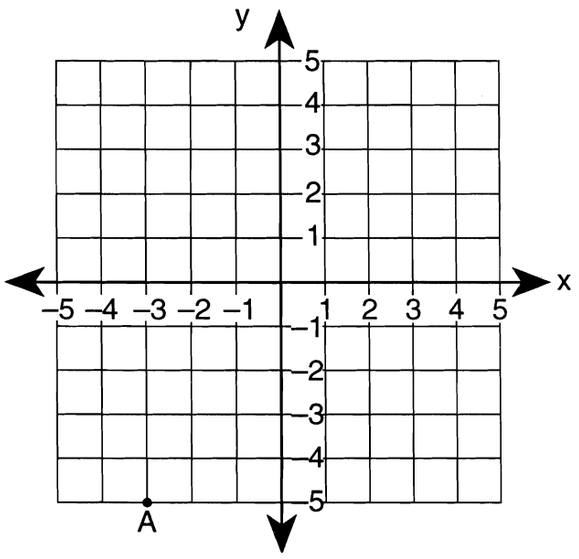
(1) Monday
(2) Tuesday
(3) Wednesday
(4) Thursday

25 Each  below represents 12 liters of gasoline.

What is the total number of liters of gasoline represented?

(1) 72
(2) 60
(3) 54
(4) 48

26 What are the coordinates of point *A* in the graph below?



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

27 What is a square root of 25?

(1) 5
(2) 10
(3) 15
(4) 625

28 James had a balance of $34.78 in his savings account. If he deposited $43.77 and withdrew $51.90, what was his new balance?

(1) $8.13
(2) $26.65
(3) $78.75
(4) $130.45

29 Evaluate: 4^3

(1) 12
(2) 44
(3) 64
(4) 81

30 Prices of some food items at Leona's Deli are listed below.

Deli Items

Roast beef — $5.99 per pound
Swiss cheese — $5.00 per pound
Potato salad — $1.29 per pound

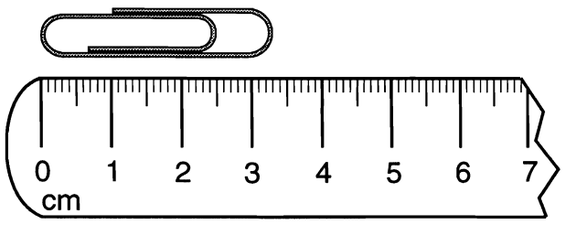
What is the total cost of 1 pound of roast beef, $\frac{1}{2}$ pound of swiss cheese, and 2 pounds of potato salad?

(1) $9.78
(2) $11.07
(3) $12.28
(4) $13.57

31 Meghan earns $5.50 per hour at her job. If she worked 4 hours each day for 5 days, what was the total amount of money she earned that week?

(1) $22.00
(2) $27.50
(3) $49.50
(4) $110.00

32 What is the length of the paper clip shown in the diagram below?



(1) 0.33 cm
(2) 3.3 cm
(3) 3 cm
(4) 33 cm

33 Which fraction is equivalent to $2\frac{3}{4}$?

(1) $\frac{7}{2}$
(2) $\frac{8}{4}$
(3) $\frac{10}{4}$
(4) $\frac{11}{4}$

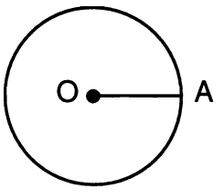
34 What is 12.461 rounded to the nearest tenth?

(1) 12.5
(2) 12.4
(3) 12.46
(4) 12

35 Which number has the *least* value?

(1) –7
(2) –5
(3) 5
(4) 7

36 Point O is the center of the circle shown below.



Which term describes $\overline{OA}$?

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

37 Find the value of $(2 + 3) + 4(7 - 5)$.

(1) 13
(2) 25
(3) 53
(4) 58

38 Which expression is *not* true?

(1) $3.05 > 3$
(2) $2.15 > 2.10$
(3) $9.60 < 9.06$
(4) $7.24 < 7.25$

39 Which fraction has a value greater than 1?

(1) $\frac{7}{14}$
(2) $\frac{9}{10}$
(3) $\frac{6}{7}$
(4) $\frac{3}{2}$

40 What is the best estimate for the width of a door?

(1) 1 mm
(2) 1 cm
(3) 1 m
(4) 1 km

41 Eddie rolls a fair six-sided die while playing a board game. What is the probability that a 2 will come up?

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

42 A painter takes 5 hours to paint a room. At that rate, how much of the room will he paint in 2 hours?

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

43 Roberto receives $30 for the first 15 packages he delivers and $3 for each additional package he delivers. If he delivers 20 packages, how much should he earn?

(1) $30
(2) $45
(3) $60
(4) $90

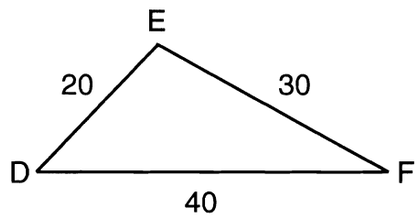
44 The least common multiple (LCM) of 6 and 8 is

(1) 12
(2) 2
(3) 24
(4) 48

45 If the sales tax rate is 8%, what is the tax on a television priced at $325.00?

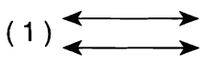
(1) $2.60
(2) $26.00
(3) $333.00
(4) $351.00

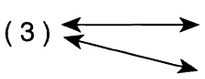
46 In triangle *DEF*, what is the ratio of *DE* to *EF*?



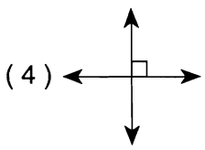
(1) 1:2
(2) 2:1
(3) 3:2
(4) 2:3

47 Which diagram shows two perpendicular lines?

(1) 

(3) 

(2) 

(4) 

48 A computer regularly priced at \$500 is on sale for $\frac{1}{5}$ off the regular price. What is the sale price of the computer?

(1) \$100
(2) \$120
(3) \$400
(4) \$420

49 The length of a rectangle is 6 feet and its width is 8 feet. How many feet are in the perimeter of the rectangle?

(1) 14
(2) 24
(3) 28
(4) 48

50 If 3 pencils cost \$0.10, how much would a dozen pencils cost?

(1) \$0.12
(2) \$0.40
(3) \$0.70
(4) \$1.20

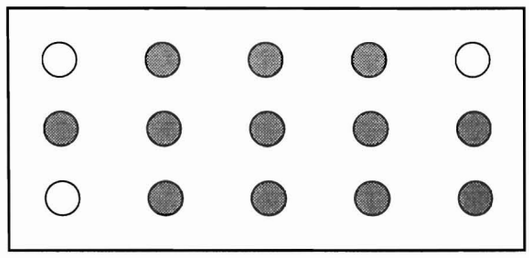
51 Tameka bought 3 apples at 15 cents each, 4 books at \$3.15 each, and a calculator for \$4.50. How much change should she receive if she gives the clerk a \$20 bill?

(1) \$2.45
(2) \$3.45
(3) \$17.55
(4) \$37.55

52 What is the best estimate of the expression (29)(61) – (11)(40)?

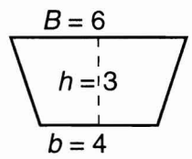
(1) 150
(2) 1400
(3) 1800
(4) 2000

53 What percent of the circles in the box below are shaded?



(1) 12%
(2) 15%
(3) 20%
(4) 80%

54 The diagram below shows the length of two sides and the height of a trapezoid. The formula for the area of a trapezoid is $A = \frac{h(B+b)}{2}$.



What is the area of the trapezoid?

(1) 12
(2) 15
(3) 30
(4) 72

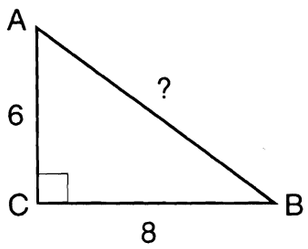
55 Which inequality is represented by the graph below?

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

56 Which expression represents "three decreased by the product of five and y"?

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

57 In the right triangle below, find the length of side $\overline{AB}$. (Use $a^2 + b^2 = c^2$)



(1) 10
(3) 28
(2) 14
(4) 100

58 What is the prime factorization of 24?

(1) 1×24
(3) $2 \times 3 \times 2 \times 3$
(2) $2 \times 2 \times 6$
(4) $2 \times 3 \times 2 \times 2$

59 Simon is 1.7 meters tall. What is his height in centimeters?

(1) 0.017 cm
(3) 170 cm
(2) 17 cm
(4) 1700 cm

60 At a restaurant, the cost of a meal was \$38.00. A 15% tip for the server would be

(1) \$5.70
(3) \$53.00
(2) \$43.70
(4) \$57.00