The Right Angle

Daryl M. J. Chichak

This article has been changed from its original format. To receive the originally formatted document and other information on achievement tests and diploma exams, go to the Alberta Education Web site at http://ednet.edc.gov.ab.ca.

New Information on the Grade 6 Mathematics Achievement Test 1999

The Operations and Number Sense part of the Grade 6 Mathematics Achievement Test (Part A) is new for the 1998–99 school year. There are 30 multiple-choice questions on this test: 7 addition/subtraction questions, 7 multiplication/division questions, 8 connecting experiences questions and 8 number relationship questions. The questions are integrated within the test. The test was developed to be completed in 30 minutes; however, students may take an additional 10 minutes to complete the test. The students are *not* allowed to use manipulatives or calculators when answering the questions. The test was written Thursday, May 27, 1999, at 9 a.m. A sample test and answer key follow in this article.

Also included in this article are a vocabulary list and seven practice questions on Venn diagrams and stem-and-leaf plots.

Questions or comments regarding this article should be directed to Daryl M. J. Chichak, Grade 6 mathematics assessment specialist, at (780) 427-0010, toll-free 310-0000, e-mail dchichak@edc.gov.ab.ca.

Grade 6 Mathematics Vocabulary List 1999

The following is a list of some of the words that may be found in the 1999 Grade 6 Mathematics Achievement Test. Ensure that your students are familiar with the list.

archeological dig	ordered pairs
calculate	pentagonal
century	portion
clerk	prism
comparison	probability
contributes	product
counterclockwise	quantity
coupon	quarters
difference	quotient
digit	remainder
displace	right triangle
dozen	roller coaster
equilateral triangle	scalene triangle
equivalent	sequence
expensive	stem-and-leaf plot
gable	sum
heads/tails	sunstroke
hundreds	tens
hundredths	tenths
isosceles triangle	total cost
juice concentrate	Venn diagram
market price	vertices
most probable	whole number

Grade 6 Mathematics Test, Part A: Operations and Number Sense

Description

There are 30 multiple-choice questions on this test. This test was developed to be completed in 30 minutes; however, you may take an additional 10 minutes to complete the test.

Instructions

- You are *not* allowed to use manipulatives or calculators when answering the questions.
- Make sure that the number of the question on your answer sheet matches the number of the question you are answering.
- Read each question carefully and choose the correct or best answer.

Example

How many sides does a triangle have?

A. 2
B. 3
C. 4
D. 5

Answer Sheet

(A) ● (C) (D)

- Use only an HB pencil to mark your answer.
- If you change your answer, erase your first mark completely.
- Try to answer all the questions.

Practice Questions

1. What is the sum of 87.5 and 12.5?
   A. 1 093.75
   B. 100.0
   C. 75.0
   D. 7.0

2. Calculate 2.5×100.
   A. 2.50
   B. 25.0
   C. 250
   D. 2 500

3. A fraction that is equivalent to $^9/_{10}$ is
   A. $^{90}/_{110}$
   B. $^{81}/_{90}$
   C. $^{56}/_{60}$
   D. $^{16}/_{20}$

4. The difference between 4 300 and 2 088 is
   A. 2 212
   B. 2 322
   C. 2 388
   D. 6 388

5. A percentage that is equivalent to 7/20 is
   A. 70.0%
   B. 35.0%
   C. 28.0%
   D. 14.0%

6. You have 180 cookies. This is equivalent to
   A. 15 dozen
   B. 18 dozen
   C. 20 dozen
   D. 30 dozen

7. Calculate $483.2 \div 8$.
   A. 604
   B. 406
   C. 60.4
   D. 40.6

8. Calculate $\$1\,000.00 - \$178.50$.
   A. 821.50
   B. 922.50
   C. 932.50
   D. 1 178.50

9. Calculate 63 736 - 2 947.
   A. 34 266
   B. 59 211
   C. 60 789
   D. 66 683

10. A fraction that is equivalent to 75% is
    A. $^{17}/_{20}$
    B. $^7/_{10}$
    C. $^4/_5$
    D. $^3/_4$

11. You are paid $4.00/h to babysit. You work for 9.5 hours. How much do you earn?
    A. $40.50
    B. $38.00
    C. $36.00
    D. $13.50

12. When a number is divided by 7, the quotient is 8 remainder 6. What is the number?
    A. 42
    B. 50
    C. 56
    D. 62

13. The difference between $640.00 and $346.84 is
    A. $293.16
    B. $304.26
    C. $306.84
    D. $986.84

14. Calculate 38.7 - 29.007.
    A. 9.693
    B. 9.707
    C. 10.307
    D. 11.703

15. The total number of minutes in 3½ hours is
    A. 210 min
    B. 230 min
    C. 330 min
    D. 350 min

16. The number of nickels in $3.50 is
    A. 14
    B. 35
    C. 70
    D. 350

17. Calculate 7 263 ÷ 9.
    A. 78
    B. 87
    C. 807
    D. 870

18. If one item costs $1.20, what is the cost of 5 items?
    A. $3.80
    B. $5.00
    C. $6.00
    D. $6.20

19. Calculate 730 × 25.
    A.   511
    B.   1 825
    C.   5 110
    D. 18 250

20. How many metres are in 275 cm?
    A. 27 500 m
    B. 2 750 m
    C.   27.5 m
    D.   2.75 m

21. Calculate 3.74 + 2.9 + 48.6 + 0.28.
    A. 9.17
    B. 11.78
    C. 43.42
    D. 55.52

22. What is 98.875 rounded to the nearest hundredth?
    A. 100
    B. 99
    C. 98.9
    D. 98.88

23. A grandmother gives $96 to be shared by her 8 grandchildren. How much does each grandchild receive?
    A. $ 12
    B. $ 88
    C. $104
    D. $768

24. The sum of four numbers is 90. The first three numbers are 27, 38 and 15. What is the fourth number?
    A.   10
    B.   30
    C.   80
    D. 170

25. A pair of equivalent fractions are
    A. $^{7}/_{8}$ and $^{64}/_{72}$
    B. $^{1}/_{4}$ and $^{8}/_{32}$
    C. $^{3}/_{7}$ and $^{24}/_{63}$
    D. $^{3}/_{5}$ and $^{21}/_{40}$

26. Calculate 25 000 000 + 790 021.
    A.   24 209 979
    B.   25 790 021
    C.   54 002 100
    D. 104 002 100

27. The sum of two numbers is 13, and their product is 36. What are the two numbers?
    A. 8 and 5
    B. 7 and 6
    C. 4 and 9
    D. 3 and 10

28. You buy one item for $5.24, one for $12.56 and one for $28.95. What is your change from $50.00?
    A. $96.75
    B. $46.75
    C. $ 4.25
    D. $ 3.25

29. What is the product of 56 and 22?
    A.   78
    B.   112
    C.   224
    D. 1 232

30. What is 8.5 rounded to the nearest whole number?
    A. 9
    B. 8
    C. 7
    D. 5

Part B: Practice Questions

Use the following information to answer questions 1 to 3.

In Language Arts, the students played a word game in which the value of a word was determined by the value of the letters in the following list.

A's = $0.11
B's = $0.12
C's = $0.13
  •   •
  •   •
  •   •
Z's = $0.36

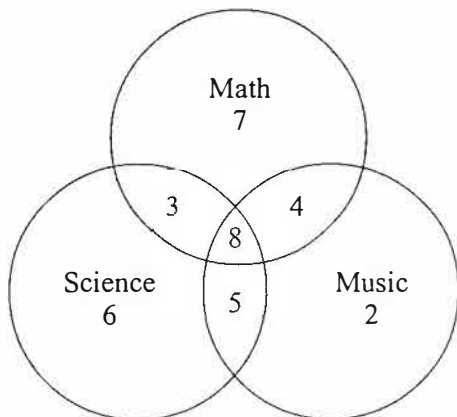The teacher made the following stem-and-leaf plot of the value of the student's words.

Range of Word Values ($)

$1.7	2 5 8
$1.6	0 1 2 4 8
$1.5	1 3 4 5 5 5 8
$1.4	3 3 4 4 5 5 7 8
$1.3	1 5 6 7 8 8 9 9
$1.2	2 3 6 6 9
$1.1	1 2 3 5
$1.0	0 4 8

1. What is the value of the most expensive word?
   A. $1.00
   B. $1.39
   C. $1.55
   D. $1.78

2. What is the value of the least expensive word?
   A. $1.00
   B. $1.39
   C. $1.55
   D. $1.78

3. What is the difference between the most expensive word and least expensive word?
   A. $0.70
   B. $0.78
   C. $2.78
   D. $2.86

Use the following Venn diagram to answer questions 4 to 7.

The Venn diagram below shows the subject preferences chosen by a group of students.

4. How many students are in the class?
   A. 27
   B. 29
   C. 33
   D. 35

5. How many students chose Science as their only preference?
   A. 3
   B. 5
   C. 6
   D. 8

6. How many students in total chose Math as one of their preferences?
   A. 22
   B. 15
   C. 8
   D. 7

7. How many students chose all three subject areas?
   A. 3
   B. 4
   C. 5
   D. 8

Key to Practice Questions

Part A: Operations and Number Sense

Question	Key	Category	Question	Key	Category
1	B	A/S	16	C	CE
2	C	M/D	17	C	M/D
3	B	NR	18	C	CE
4	A	A/S	19	D	M/D
5	B	NR	20	D	NR
6	A	CE	21	D	A/S
7	C	M/D	22	D	NR
8	A	CE	23	A	CE
9	C	A/S	24	A	A/S
10	D	NR	25	B	NR
11	B	CE	26	B	A/S
12	D	M/D	27	C	M/D (A/S)
13	A	CE	28	D	CE
14	A	A/S	29	D	M/D
15	A	NR	30	A	NR

A/S—addition/subtraction
M/D—multiplication/division
NR—number relationships
CE—connecting experiences

Part B: Multiple-Choice Practice Questions

1	D
2	A
3	B
4	D
5	C
6	A
7	D