Abel Mathematics Contest

Grades 4 and 5
May 2006

"It appears to me that if one wishes to make progress in mathematics,
one should study the masters and not the pupils."
Niels Henrik Abel
1802-1829

Instructions:
1. Calculators may be used.
2. Circle the correct answer.
3. Transfer your answers to the Answer Form.
4. The time limit for the Niels Henrik Abel Mathematics Contest is one hour.

BURNABY
SCHOOL DISTRICT 41

Abel 2006

1. The product of two whole numbers is 5. What is the sum of these numbers?

    A. 10   **B.** 6   **C.** 5   **D.** 4

2. 1 x (1+1) x (1+1+1) =

    A. 1   **B.** 3   **C.** 5   **D.** 6

3. The sum of the ages of Tom, Dick and Harry is 26. If Tom is 9 and Dick is 10, how old is Harry?

    A. 7   **B.** 11   **C.** 16   **D.** 17

4. Which of the following is **not** a whole number?

    A. 8+7   **B.** 8-7   **C.** 8x7   **D.** 8÷7

5. What number must you multiply 30 by to get the product of 3000?

    A. 10   **B.** 100   **C.** 300   **D.** 1000

6. What is the average of 24, 48 and 96?

    A. 48   **B.** 52   **C.** 55   **D.** 56

7. Multiply the number of sides of a triangle by the number of sides of an octagon. What is the product?

    A. 9   **B.** 11   **C.** 18   **D.** 24

8. A video arcade is open from 10:30 A.M. to 11 P.M. every day of the week, except Sunday. How many hours is the video arcade open each week?

    A. 9   **B.** 75   **C.** 78   **D.** 91

9. I have 17¢. If I double the number of pennies I have, I would then have 29¢. How many pennies do I have?

    A. 12   **B.** 7   **C.** 5   **D.** 2

10. What is the square of 7?

    A. 7   **B.** 14   **C.** 28   **D.** 49

11. When 1 is added to an even number, the new number must be

    A. prime   **B.** divisible by 3   **C.** even   **D.** odd

12. If a call on a cell phone costs 20¢ for the first 3 minutes, and 5¢ for each additional minute, what is the cost of a 10-minute call?

       A. 25¢   **B.** 55¢   **C.** 65¢   **D.** 95¢

13. A hexagon has one more side than a

       A. triangle   **B.** rectangle   **C.** pentagon   **D.** rhombus

14. 2 x ½ x 2 x ½ x 2 =

       A. 4   **B.** 2   **C.** 1   **D.** ½

15. Which of the following numbers has 3 as a factor?

       A. 2003   **B.** 2004   **C.** 2005   **D.** 2006

16. 24 : 6 = 40 : ___

       A. 4   **B.** 6   **C.** 8   **D.** 10

17. Today, the difference between my parents' ages is 12 years. Four years ago, what was the difference between their ages?

       A. 2 years   **B.** 6 years   **C.** 8 years   **D.** 12 years

18. How many positive prime numbers have a ones' digit of 5?

       A. 0   **B.** 1   **C.** 5   **D.** 25

19. Of the following, which fraction does **not** equal $\frac{2}{3}$?

       A. $\frac{22}{33}$ **B.** $\frac{20}{30}$ **C.** $\frac{4}{6}$ **D.** $\frac{12}{13}$

20. Which of the following is **not** a polygon?
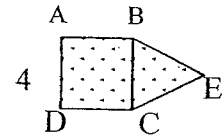
       A. triangle   **B.** rhombus   **C.** rectangle   **D.** circle

21. The tens' digit of a 2-digit number is 5. Round this number to the nearest hundred.

       A. 0   **B.** 50   **C.** 100   **D.** 150

22. As shown, square ABCD has side-length 4, and BEC is an equilateral triangle. The perimeter of the figure ABECD is

A. 16   B.   20   C.   24   D.28

23. If I start with $100, increase this by 50%, and then decrease the new amount by 50%, how much money will I have?

A. $50   B. $66   C. $75   D. $100

24. The length of a radius of a circle is 20 cm. A line segment is drawn between 2 points on the circle. The length of this line segment **cannot** be

A. 50cm   B.   40cm   C.   2cm   D.   1cm

25. A family left Burnaby at 8:00 P.M. on Tuesday and drove to a family reunion in Calgary. They arrived at 11:30 A.M. the next day. How long did the trip take?

A. 3 ½ hours   B.   4 ½ hours   C.   13 ½ hours   D.   15 ½ hours

26. What are the chances of spinning a C?

A. 1/4   B.   75%   C.   0.5   D.   100%
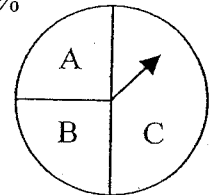
27. The least common multiple of 12, 18 and 30 is

A. 6   B.   60   C.   180   D.   540

28. There are 30 students in a class, and 3/5 of them are girls. How many boys are there?

A. 6   B.   12   C.   18   D.   24
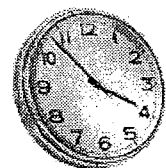
29. 20 divided by ½ equals

A. 40   B.   10   C.   5   D.   2

30. From 6 days 7 hours 35 minutes, subtract 3 days 9 hours 50 minutes.

A. 2 days 22 hours 45 minutes   B.   2 days 21 hours 45 minutes

C. 2 days 7 hours 15 minutes   D.   2 days 2 hours 15 minutes

Name _____   Date _____

Abel Math Contest – 2006
Answer Form

1. _____   16. _____

2. _____   17. _____

3. _____   18. _____

4. _____   19. _____

5. _____   20. _____

6. _____   21. _____

7. _____   22. _____

8. _____   23. _____

9. _____   24. _____

10. _____   25. _____

11. _____   26. _____

12. _____   27. _____

13. _____   28. _____

14. _____   29. _____

15. _____   30. _____

Score   /30   _____ %

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Answer Key

1.	B	16.	D
2.	D	17.	D
3.	A	18.	B
4.	D	19.	D
5.	B	20.	D
6.	D	21.	C
7.	D	22.	B
8.	B	23.	C
9.	A	24.	A
10.	D	25.	D
11.	D	26.	C
12.	B	27.	C
13.	C	28.	B
14.	B	29.	A
15.	B	30.	B