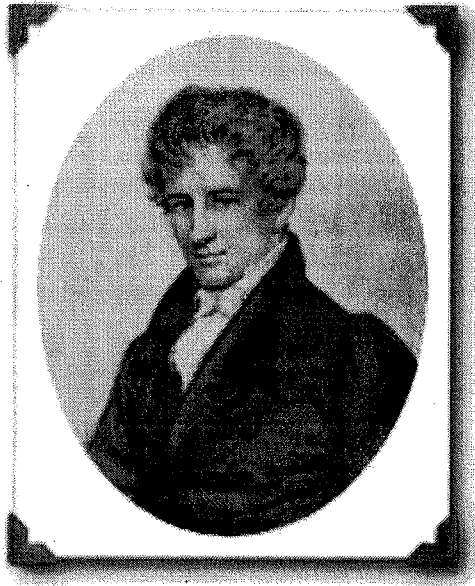


# ABEL MATHEMATICS CONTEST

GRADES 4 AND 5

MAY 2010



NIELS HENRIK ABEL

## Instructions

1. Calculators may be used.
2. Circle the correct answer.
3. Transfer your answer to the answer form in dark pencil.
4. The time limit for the test is one hour.

1.  $9 + 80 + 700 + 6000 =$

- A. 6789                      B. 6798                      C. 9876                      D. 30 000

2. Jennifer's teacher is 26 years older than Jennifer. Jennifer is 9. How old is Jennifer's teacher?

- A. 34                      B. 35                      C. 36                      D. 37

3.  $(1 \div 1) \times (2 \div 2) \times (3 \div 3) \times (4 \div 4) =$

- A. 1                      B. 4                      C. 10                      D. 24

4. In square  $ABCD$  shown at the right,  $AB = 3$ . What is the perimeter of this square?



- A. 3                      B. 6                      C. 9                      D. 12

5. A string of length 12 is cut into 3 pieces of equal length. What is the sum of the lengths of the 3 pieces?

- A. 3                      B. 4                      C. 9                      D. 12

6. How many whole numbers from 1 to 100 are divisible by 3?

- A. 3                      B. 30                      C. 33                      D. 34

7. A whole number is multiplied by 16. The product could *never* be

- A. 16                      B. 48                      C. 72                      D. 80

8. The first odd whole number is 1, the second is 3, and so on. What is the tenth odd whole number?

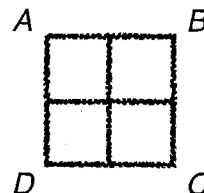
- A. 21                      B. 19                      C. 17                      D. 11

9.  $2 \times 3 \times 4 \times 5 = 3 \times 4 \times 5 \times \underline{\quad}$

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

10. Anthony is twice as old as Stephanie and Stephanie is twice as old as Wally. If Wally is 12 years old, how old is Anthony?
- A. 3                      B. 6                      C. 24                      D. 48
11. The next number in the sequence 1, 3, 7, 13, 21, ... is
- A. 31                      B. 33                      C. 35                      D. 37
12. A man needs six pieces of wire, each 218 centimeters long. Wire is sold only by the meter. How many meters of wire must the man buy?
- A. 13                      B. 14                      C. 18                      D. 1308
13. How many hundreds are there in 1 000 000?
- A. 1 million              B. 1 thousand              C. 10 thousand              D. 100 thousand
14. If today is Tuesday, what day was it 76 days ago?
- A. Monday              B. Tuesday              C. Wednesday              D. Thursday
15. What is the ones' digit of  $(100 \times 9) + (20 \times 9) + (3 \times 9)$
- A. 0                      B. 7                      C. 8                      D. 9
16. I own 5 plastic dinosaurs, and each has 4 legs. If I painted 3 stripes on each dinosaur leg, then how many stripes did I paint all together
- A. 12                      B. 15                      C. 20                      D. 60
17. In a dog race, my dog ran after a mail truck and finished 7th best (which was also 7th from the last). If there were no ties, how many dogs ran in the race?
- A. 7                      B. 13                      C. 14                      D. 15

18. Square  $ABCD$  is divided into four smaller squares, as shown in the diagram. The perimeter of each of the four smaller squares is 4. What is the perimeter of square  $ABCD$ ?

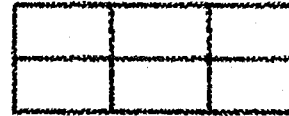


- A. 8                      B. 12                      C. 16                      D. 20

19. A square sheet of paper is cut along a straight line into two pieces. Neither of these two pieces can be a

- A. pentagon    B. triangle    C. rectangle    D. square

20. How many rectangles are pictured in this diagram?



- A. 7    B. 9    C. 16    D. 18

21. If a chicken lays one egg in one minute, how many minutes does it take 3 chickens to lay a total of 3 eggs?

- A.  $\frac{1}{3}$     B. 1    C. 3    D. 9

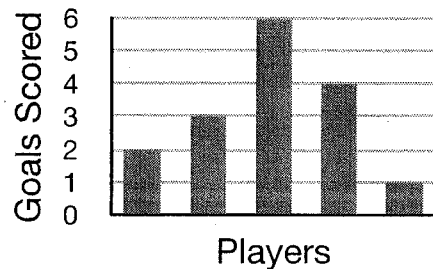
22. A *palindrome* is any word or number which reads the same forwards or backwards. For example, the number "12321" and the word "level" are both palindromes. How many whole numbers between 100 and 1000 are palindromes?

- A. 9    B. 81    C. 90    D. 99

23. What is the probability of rolling a number less than five on the first roll of a fair, six-sided die?

- A. 4    B.  $\frac{2}{3}$     C.  $\frac{5}{6}$     D.  $\frac{1}{2}$

24. Five players scored goals in the last 10 games of the season. The graph shows the number of goals scored by each player. What was the total number of goals scored by the players in the last 10 games?



- A. 6    B. 10    C. 15    D. 16

25. Kelly and Janice receive the same amount of money. Kelly buys 2 pens and has 80¢ left. Janice buys 4 of these pens and has 30¢ left. What amount of money did each receive?

- A. 40¢    B. \$1.30    C. 25¢    D. \$1.80

Name: \_\_\_\_\_

## 2010 Abel Mathematics Contest

### Answer Sheet

1.	2.	3.	4.	5.
6.	7.	8.	9.	10.
11.	12.	13.	14.	15.
16.	17.	18.	19.	20.
21.	22.	23.	24.	25.

KEY

2010 Abel Mathematics Contest

Answer Sheet

1. <b>A</b>	2. <b>B</b>	3. <b>A</b>	4. <b>D</b>	5. <b>D</b>
6. <b>C</b>	7. <del>B</del> <b>C</b>	8. <b>B</b>	9. <b>A</b>	10. <b>D</b>
11. <b>A</b>	12. <b>B</b>	13. <b>C</b>	14. <b>C</b>	15. <b>B</b>
16. <b>D</b>	17. <b>B</b>	18. <b>A</b>	19. <b>D</b>	20. <b>D</b>
21. <b>B</b>	22. <b>C</b>	23. <b>B</b>	24. <b>D</b>	25. <b>B</b>