



# Test n°1

**Arithmetic and fractions - Troisième**  
**Duration 1 hour - Coeff. 4**  
**Score on 20 points**

*The use of calculator is allowed. The Spelling and presentation will earn 1 point*

## Exercise 1. True or false

**4 points**

$$A = \frac{5}{3} - \frac{2}{3} \times \frac{7}{10} \quad ; \quad B = \frac{1 + \frac{1}{3}}{1 - \frac{1}{3}}$$

Assertions are given above. For each assertion, explain whether it is true or false.

1. **Assertion 1** : Number  $A$  is a decimal number.
2. **Assertion 2** : Number  $B$  is an integer number.
3. **Assertion 3** : Number  $C = \frac{B}{A}$  is equal to  $\frac{4}{3}$ .

## Exercise 2.

**3 points**

Here is a spreadsheet obtained using a Spreadsheet Program (like Excel).

	A	B	C
1	216	126	90
2	126	90	36
3	90	36	54
4	54	36	18
5	36	18	18
6	18	18	0

1. **[0,5 point]** By observing values in the spreadsheet, suggest a formula to enter in cell C1 and then duplicate to the cells below.
2. **[0,5 point]** The spreadsheet program provides two functions MAX and MIN. From two numbers, MAX returns the largest and MIN the smallest value : for example  $MAX(23, 12) = 23$ . What formula was entered in cell A2 then duplicated to the cells below ?
3. **[1 point]** What is the number in cell C5, compared to 216 and 126 numbers ? Justify.
4. **[1 point]** Is the fraction  $\frac{216}{126}$  irreducible ? If it is not, make it irreducible.

## Exercise 3.

**6 points**

Emma and Arthur bought for their wedding 3003 chocolate dragees and 3731 almond dragees.

1. Arthur proposes to distribute these sweets identically in 20 baskets. Each basket should have the same composition.  
**[2 points]** Calculate the number of unused dragees ?
2. Emma and Arthur change their minds and decide to offer small baskets with the same composition. They hope there will remain no unused dragees.
  2. a. **[1 point]** Emma proposes to make 90 baskets. Do you think it's appropriate ? Justify.
  2. b. **[3 points]** Now they want to make as many baskets as possible. How many will they make and what will they contain ? (what will their composition be ?)

## Exercise 4.

**6 points**

1. Are 756 and 441 numbers relatively prime (we also say mutually prime, or coprime) ?
2. Calculate the greatest common divisor of 756 and 441.
3. Deduce the calculation of the number :  $A = \frac{756}{441} + \frac{19}{21}$
4. Is number  $A$  a decimal ? Justify.

- End of the test -