

**Task.** 0.000000123 is equivalent to which of the following?

- a) 1.23E07
- b) 1.23E08
- c) 1.23E09
- d) 1.23E-07

**Solution.** The notation of the form  $aEb$  mean  $a * 10^b$  and is called a *scientific* notation of the number. For example,

$$1.23E07 = 1.23 * 10^7, \quad 56.3422E-4 = 56.3422 * 10^{-4} = 0.00563422$$

$$500 = 5 * 10^2 = 5E2, \quad 0.034 = 3.4 * 10^{-2} = 3.4E-2,$$

and so on.

Now let us represent the number 0.000000123 in the form  $a * 10^b$  for some  $a$  and  $b$ .

The first non-zero digit after the period in the number 0.000000123 is 1 and it stands at 7-th position. Therefore

$$0.000000123 = 1.23 * 10^{-7} = 1.23E-07.$$

Thus the correct answer is d).