Question #79441

use the general rate equation: R = k[A]x[B]y.

Which term is dependent on temperature?

A. [A]

B. [B]

C. R

D. x + y

E. None of the Above

Answer:

The right answer is C. R.

Why? Because of that only, the rate constant depends on temperature [1]:

$$k = A * e^{\frac{-E_a}{RT}},$$

where k – is the rate constant, T – is the temperature, A - is the pre-exponential factor (a constant for each chemical reaction), E_a – is the activation energy for the reaction, R – is the universal gas constant.

So, as there is no answer with the rate constant, the only right answer is C. R, as the rate of reaction depends on k.

Reference:

[1] https://en.wikipedia.org/wiki/Arrhenius_equation