76. For the reaction $A + B = R + D$ at C_A = 1 mol/L and C_B = 2 mol/L, the rate is 0.5 mol/ L·h. Determine the reaction rate constant:

A) 0.15;
B) 0.40;
C) 0.60;
D) 0.40;
E) 0.25.

77. For the chemical reaction $A+2B+C=D$, the dependence of the rate on the concentration of the reacting substances corresponds to:

A) $V = K \cdot C_A \cdot C_B^2 \cdot C_D$;
B) $V = K \cdot C_A \cdot C_B \cdot C_C$;
C) $V = K \cdot C_A \cdot C_B^2$;
D) $V = K \cdot C_A \cdot C_B^2 \cdot C_C$;
E) $V = K \cdot C_B \cdot C_C$.

78. The reaction rate $A + 2B = C$ with an increase in the concentration of B will increase in n number of times:

A) 9;
B) 2;
C) 3;
D) 4;
E) 12.

79. With an increase in the concentration of reactants, the reaction rate:

A) will increase;
B) will not change;
C) will decrease;
D) will shift to the left;
E) will stop.

80. An increase in the ammonia yield by the reaction: $N_2 + 3H_2 = 2NH_3$ + Q will contribute to the condition:

A) increasing the pressure in the system;
C) temperature rise;
C) reduction of hydrogen concentration;
D) lowering the system pressure;
E) reduction of nitrogen concentrations.

81. In the reaction $2NO + O_2 = 2NO_2 + Q$, determine the numbers of factors that shift the equilibrium to the right:

1. increase the concentration of oxygen;
2. reduce the concentration of nitric oxide (II);
3. increase the temperature;
4. reduce the pressure;
5. reduce the temperature;
6. increase the pressure;
7. enter the catalyst.

A) 1, 3, 5;
B) 2, 4, 6;
C) 1, 4, 5;