63. Two reactions at 10°C proceed with the same speed ($\upsilon_1 = \upsilon_2$). The temperature coefficient of the speed of the first reaction is 2, the second is 3. How will the reaction rates υ_1/υ_2 be related if they are carried out at 30°C?

A) 8/27;

B) 2/3;

C) 3/2;

D) 9/4;

E) 27/8.

64. The expression of the law of mass action for the process $2SO_2 + O_2 = 2SO_3$ corresponds to:

A) $V = k[2SO_2][O_2]$;

B) $V = k[SO_2][O_2]$;

C) $V = k[SO_2][2O_2]$;

D) $V = k[SO_2]^2[O_2]$;

E) $V = k[SO_2]^3[O_2]$.

65. The dependence of speed of reaction on concentration of the reacting substances is expressed by the law:

A) Want Hoff's law;

B) the law of constancy of the composition;

C) the law of the masses;

D) Raul's law;

E) Avogadro's law.

66. An increase in the concentration of *NO* in 2 times in the reaction $2NO + O_2 = 2NO_2$ leads to an increase in the reaction rate by *n* times:

A) 2;

B) 4;

C) 5;

D) 3;

E) 6.

67. An increase in the concentration of nitrogen by a factor of 2 in the reaction $N_2 + 3H_2 = 2NH_3$ leads to:

A) an increase in the reaction rate by 2 times;

B) reducing of the reaction rate by 3 times;

C) reducing of the reaction rate by 6 times;

D) reducing of the reaction rate by 8 times;

E) an increase in the reaction rate by 6 times.

68. An increase in the concentration of hydrogen by 3 times in the reaction $N_2 + 3H_2 = 2NH_3$ leads to:

A) an increase in the reaction rate by 27 times;

B) an increase the reaction rate 9 times;

C) an increase in the reaction rate by 3 times;

D) reducing of the reaction rate by 9 times;

E) reducing of the reaction rate by 17 times.

69. An increase in the concentration of ammonia by 3 times in the reaction $4NH_3 + 5O_2 = 2NO + 6H_2O$ results in:

A) an increase in the reaction rate by 3 times;

B) an increase in the reaction rate by 27 times;