

Quiz - Kinetics
Reg. Chem.
Mr. Carman

NAME _____

DATE _____ PERIOD _____

1. Given the reaction $A + B + 20 \text{ kcal} \rightarrow C$. If an activation energy of 55 kcal is required for the forward reaction, then the activation energy of the reverse reaction is

- 1) 50 kcal 2) 55 kcal 3) 15 kcal 4) 35 kcal

2. The difference between the potential energy of the products and the potential energy of the reactants is 1) ΔH 2) ΔG 3) ΔS 4) ΔT

3. When one mole of a certain compound is formed from its elements under standard conditions, it absorbs 72 kilocalories of heat. A correct conclusion from this statement is that the reaction has a

- 1) ΔH_f equal to -72 kcal/mole 2) ΔH_f equal to +72 kcal/mole
3) ΔG_f equal to -72 kcal/mole 4) ΔG_f equal to +72 kcal/mole

4. Given the reaction: $N_2 + 3 O_2 \rightarrow 2 NO_3 + 82 \text{ kcal}$. What is the heat of formation of nitrogen (VI) oxide in kcal/mole? 1) -82 2) -41 3) +82 4) +41

5. - 8. Base your answers to questions 5 - 8 on the diagram below.

5. The energy of activation for the reverse reaction is represented by 1) 1 2) 2 3) 3 4) 4

6. Which line represents the potential energy of the products? 1) 1 2) 2 3) 3 4) 5

7. If a catalyst were introduced into the reaction, which interval would be changed?

- 1) 1 2) 2 3) 5 4) none would change

8. The heat of reaction with the correct sign could be found by

- 1) subtracting 5 from 2 2) adding 2 and 4 3) subtracting 4 from 3 4) adding 2 and 5

9. A decrease in temperature decreases the rate of all chemical reactions because the decrease in temperature causes a decrease in the

- 1) ΔH of the reaction 2) frequency of collisions
3) free energy of the reaction 4) activation energy of the reaction

10. Given: $2 NO_{(g)} + O_{2(g)} \rightarrow 2 NO_{2(g)} \quad \Delta H = +136 \text{ kcal}$

The energy absorbed when two moles of O_2 are consumed is

- 1) 136 kcal 2) 272 kcal 3) 39 kcal 4) 68 kcal

