

AP Chemistry

Name: _____ Score: _____

1. At equilibrium, the forward and reverse reaction rates are...
 - ☐ equal
 - ☐ both zero
 - ☐ increasing
2. The symbol $\rightleftharpoons$ in an equation means the reaction is...
 - ☐ irreversible
 - ☐ explosive
 - ☐ reversible
3. If $Q < K$, the reaction shifts...
 - ☐ forward (toward products)
 - ☐ backward (toward reactants)
 - ☐ it is at equilibrium
4. At equilibrium $[\text{product}] = 6$ and $[\text{reactant}] = 3$ (coefficients 1). Find K .

5. A large K (much greater than 1) means the equilibrium favours...
 - ☐ products
 - ☐ neither side
 - ☐ reactants
6. In an ICE table, a reactant's equilibrium amount is written as...
 - ☐ initial plus x
 - ☐ just x
 - ☐ initial minus x
7. At equilibrium the reactant concentration reaches zero.
 - ☐ True ☐ False
8. A concentration change alters the value of K .
 - ☐ True ☐ False

9. Adding more of a reactant changes the value of K .

☐ True ☐ False

10. The common-ion effect changes the value of K_{sp} .

☐ True ☐ False

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1. **equal**

Equal rates keep the concentrations constant.

2. **reversible**

A double arrow marks a reversible reaction.

3. **forward (toward products)**

Too few products means it moves forward to make more.

4. **2**

$$K = 6/3 = 2.$$

5. **products**

Large K means the reaction nearly goes to completion – product-favoured.

6. **initial minus x**

Reactants are used up, so their amount is (initial $-x$).

7. **False**

Both reactants and products remain present.

8. **False**

Only temperature changes K ; concentration and pressure only shift position.

9. **False**

False. Adding a substance changes Q , and the system shifts until $Q = K$ again; only temperature changes K .

10. **False**

K_{sp} is unchanged; only the amount dissolved changes.