

Quiz for Video 6 – Titrations

1. What is the main purpose of an acid-base titration?

- a) To neutralize an acid or base completely
- b) To measure the temperature change in a reaction
- c) To produce a gas from the reaction
- d) To determine the concentration of an unknown acid or base

2. What happens at the equivalence point of a titration?

- a) The acid completely dissolves in the base
- b) The reaction stops due to lack of reactants
- c) The pH becomes exactly 7 regardless of the acid or base used
- d) The acid and base have completely reacted in a 1:1 ratio

3. If 25.0 mL of 0.100 M HCl is titrated with 0.100 M NaOH, how much NaOH is needed to reach the equivalence point?

- a) 12.5 mL
- d) 25.0 mL
- b) 50.0 mL
- c) 75.0 mL

4. Which piece of laboratory equipment is primarily used to deliver the titrant in an acid-base titration?

- a) Beaker
- b) Pipette
- c) Graduated cylinder
- d) Buret

5. What is the pH at the equivalence point for a strong acid-strong base titration?

- a) 4
- b) 7
- c) 9
- d) 12

6. In a weak acid-strong base titration, the pH at the equivalence point is:

- a) Less than 7
- b) Exactly 7
- d) Greater than 7
- c) Cannot be determined

7. A titration is performed using acetic acid and NaOH. Which of the following best describes the pH at the equivalence point?

- a) Exactly 7
- b) Slightly acidic (less than 7)
- c) Cannot be determined without additional data
- d) Slightly basic (greater than 7)

8. Which factor is most important when choosing an indicator for a titration?

- a) The cost of the indicator
- b) The volume of the solution being titrated
- c) The color of the solution before titration
- d) The pH range over which the indicator changes color

9. What would happen if too much titrant is added beyond the equivalence point?

- a) The solution will remain neutral
- b) The titration will restart
- c) The indicator will become ineffective
- d) The pH will continue to increase or decrease depending on the titrant