### Reasons

#### Reflexive Property
- **Compares 1 value**
  - Ex. \( a = a \)
  - Ex. \( AB \equiv AB \)

#### Symmetric Property
- **Compares 2 values**
  - Ex. If \( a = b \), then \( b = a \)
  - Ex. If \( \overline{AB} \equiv \overline{CD} \), then \( \overline{CD} \equiv \overline{AB} \)

#### Transitive Property
- **Compares 3 values**
  - Ex. If \( a = b \) and \( b = c \), then \( a = c \)
  - Ex. If \( \overline{AB} \equiv \overline{CD} \) and \( \overline{CD} \equiv \overline{EF} \), then \( \overline{AB} \equiv \overline{EF} \)

#### Addition/Subtraction Property of Equality
- You can add or subtract the same value from both sides of an equation.
  - If \( x = y \), then \( x + a = y + a \)

#### Multiplication/Division Property of Equality
- You can multiply or divide both sides of an equation by the same value (except 0).
  - If \( x = y \), then \( x \cdot a = y \cdot a \)

#### Substitution Property of Equality
- You can replace an expression with an equivalent expression.
  - If \( x = a \), then you can replace \( x \) with \( a \) in any expression.

#### Distributive Property of Equality
- \( a(x + y) = a \cdot x + a \cdot y \)
- \( \frac{x \pm y}{a} = \frac{x}{a} \pm \frac{y}{a} \)