

2.6: Properties from Algebra

1. Multiplication Property of Zero $m \angle A \circ 0 = 0$
2. Identity
 - a. Additive Identity $CD + 0 = CD$
 - b. Multiplicative Identity $CD \circ 1 = CD$
3. Properties of Equality
 - a. Addition Property $\text{If } AB = CD \text{ then } AB + xy = CD + xy$
 - b. Subtraction Property $\text{If } AB = CD \text{ then } AB - xy = CD - xy$
 - c. Multiplication Property $\text{If } AB = CD \text{ then } 2(AB) = 2(CD)$
 - d. Division Property $\text{If } AB = CD \text{ then } \frac{AB}{2} = \frac{CD}{2}$
 - e. Substitution Property $AB = CD \text{ AND } AB + CD = 2xy \text{ then } AB + AB = xy$
 - f. Distributive Property $2(AB + CD) \text{ then } 2(AB) + 2(CD)$
 - g. Combine Like Terms $\text{If } AB + AB = xy \text{ then } 2(AB) = xy$
 - h. Reflexive Property $AB = AB$
 - i. Symmetric Property $\text{If } AB = CD \text{ then } CD = AB$
 - j. Transitive Property $\text{If } AB = CD \text{ AND } CD = xy, \text{ then } AB = xy$
4. Properties of Congruence
 - a. Reflexive Property $\overline{AB} \cong \overline{AB}$
 - b. Symmetric Property $\text{If } \overline{AB} \cong \overline{CD} \text{ then } \overline{CD} \cong \overline{AB}$
 - c. Transitive Property $\text{If } \overline{AB} \cong \overline{CD} \text{ AND } \overline{CD} \cong \overline{xy} \text{ then } \overline{AB} \cong \overline{xy}$