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| **Associative Property** | **Label this page “Properties of Algebra”**  **Cut tabs along dotted line and fold.**  **Glue this part of paper to page.**  **Match identities with proper definition and glue to tab. Some properties will have two definitions (one for addition, one for multiplication).** | **Symmetric Property** |
| **Commutative Property** | **Transitive Property** |
| **Identity** | **Addition Property** |
| **Inverse** | **Subtraction Property** |
| **Distributive** | **Multiplication Property** |
| **Multiplicative Property of Zero** | **Division Property** |
| **Zero Product Property** | **Substitution Property** |
| **Reflexive** |  |

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| a ∙ 0 = 0 = 0 ∙ a | **Multiplication**  (ab)c = a(bc) | If a = b, then  a ‐ c = b ‐ c. | **Multiplication**  ab = ba |
| **Addition**  (a + b) + c = a + (b + c) | If ab = 0, then a = 0 or b = 0. | If a = b, then  ac = bc. | If a = b, then  a + c = b + c. |
| **Multiplication**  a ∙  = 1 = ∙ a  if a ≠ 0 | **Addition**  a + b = b + a | If a = b and c ≠ 0, then | If a = b and b = c, then a = c. |
| a = a | **Addition**  a + 0 = a = 0 + a | If a = b, then b can be substituted for a in any equation. | **Addition/Multiplication**  a(b + c) = ab + ac  and  ab + ac = a(b + c) |
| **Addition**  a + (−a) = 0 = (−a) + a | If a = b, then b = a. | **Multiplication**  a ∙ 1 = a = 1 ∙ a |  |
| a ∙ 0 = 0 = 0 ∙ a | **Multiplication**  (ab)c = a(bc) | If a = b, then  a ‐ c = b ‐ c. | **Multiplication**  ab = ba |
| **Addition**  (a + b) + c = a + (b + c) | If ab = 0, then a = 0 or b = 0. | If a = b, then  ac = bc. | If a = b, then  a + c = b + c. |
| **Multiplication**  a ∙  = 1 = ∙ a  if a ≠ 0 | **Addition**  a + b = b + a | If a = b and c ≠ 0, then | If a = b and b = c, then a = c. |
| a = a | **Addition**  a + 0 = a = 0 + a | If a = b, then b can be substituted for a in any equation. | **Addition/Multiplication**  a(b + c) = ab + ac  and  ab + ac = a(b + c) |
| **Addition**  a + (−a) = 0 = (−a) + a | If a = b, then b = a. | **Multiplication**  a ∙ 1 = a = 1 ∙ a |  |