

Unit 4 — Reasoning FACT SHEET

Properties

Algebra Properties: If given $A = B$, then

- Addition Property: $A + C = B + C$
- Subtraction Property: $A - C = B - C$
- Multiplication Property: $(A)(C) = (B)(C)$
- Division Property: $\frac{A}{C} = \frac{B}{C}$
- Reflexive Property: $A = A$
- Symmetric Property: $B = A$

Other Properties

- Transitive Property:

If $A = B$ and $B = C$, then $A = C$

- Substitution Property:

If $A + B = C$ and $B = D$, then $A + D = C$

- Distributive Property:

If $A(B + C) = D$, then $AB + AC = D$

Postulates:

- Segment or Angle Addition Postulate
Part + Part = Whole

Definitions:

- **Midpoint**—gives you congruent segments
- **Angle Bisector**—gives you congruent angles
- **Perpendicular lines**—give you right angles
- **Right angles**—equal 90 degrees
- **Supplementary Angles**—sum to 180 degrees
- **Complementary Angles**—sum to 90 degrees
- **Linear Pair**—form a straight line
- **Straight angle**—equals 180 degrees
- **Congruent segments or angles**—have equal measures