Postulates and Theorems

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What is a Postulate?

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The most often used postulates in Geometry are the axioms or properties of equality and congruence.

Properties of Equality

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3. Multiplication Property of Equality: If $a = b$, then $ac = bc$.
4. Division Property of Equality: If $a = b$ and $c \neq 0$, then $\dfrac{a}{c} = \dfrac{b}{c}$.

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6. Symmetric Property: If $a = b$,then $b = a$.
7. Transitive Property: If $a = b$ and $b = c$, then $a = c$.
8. Substitution Property: If $a + b = c$ and $b = x$, then $a + x = c$.

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2. Symmetric Property: If $\angle A \cong \angle B$, then $\angle B \cong \angle A$.
3. Transitive Property: If $\angle A \cong \angle B$ and $\angle B \cong \angle C$, then $\angle A \cong \angle C$.

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2. Segment Addition Postulate: If B lies on $\overline{AC}$, then $AC = AB + BC$.
3. Angle Addition Postulate: If B is in the interior of $\angle AOC$, then $m\angle AOC = m\angle AOB + m\angle BOC$.

What is a Theorem?

Theorem: a statement that is accepted after it is proved deductively

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3. If $m\angle J + m\angle K = 90^\circ$ and $m\angle K + m\angle L = 90^\circ$, then $\angle J \cong \angle L$.

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Thank you for watching.