9-12-17 5th Geo

$\wedge$ And

$\vee$ OR

if and only if (iff)

$a \rightarrow b$ $b \rightarrow a$ $a \leftrightarrow b$

Properties from yesterday

① Reflexive

* $\angle ABC = \angle ABC$

② Symmetric

* If $AB = CD$, then $CD = AB$

③ Transitive

* If $\overline{AB} \cong \overline{BC}$ and $\overline{BC} \cong \overline{XY}$, then $\overline{AB} \cong \overline{XY}$

④ Substitution

* If $AB = 5$ and $AB + BC = XY$, then $5 + BC = XY$

* If $a = b$ and $a - 6 = 10$, then $b - 6 = 10$.

⑤ Addition

* If $x-2=10$, then $x=12$
$+2 \quad +2$

⑥ Subtraction

* If $x+2=10$, then $x=8$
$-2 \quad -2$

⑦ Multiplication

* If $\frac{x}{5}=3$, then $x=15$
$\times 5 \quad \times 5$

⑧ Division

* If $5 \cdot x=20$, then $y=4$
$\div 5 \quad \div 5$

Name the property

① If $AB+CD=XY+CD$, then $AB=XY$
$-CD \quad -CD$

Subtraction

② If $\angle XYZ - \angle ABC = 20°$, then
$\angle XYZ = 20° + \angle ABC$

Addition

③ $\overline{AB} \cong \overline{AB}$ Reflexive

④ If $\overline{AB} \cong \overline{XY}$ and $\overline{XY} \cong \overline{NT}$, then
$\overline{AB} \cong \overline{NT}$ Transitive

⑤ If $5 \cdot AB = BC$, then $AB = \frac{BC}{5}$.

Division

⑥ If $AB = 7$ and $AB + BC = XY$, then
$7 + BC = XY$.

Substitution

(7) If $XY - 4 = BC$, then $BC = XY - 4$.

Symmetric

(8) If $-2 \cdot AB = -10$, then $AB = 5$

$\div -2 \quad \div -2$

Division

(9) If $\angle XYZ + \angle NPT = \angle ABC + 50^\circ$,

and $\angle NPT = 40^\circ$, then

$\angle XYZ + 40^\circ = \angle ABC + 50^\circ$

Substitution

9-12-17 6th Geo

$\wedge$ and

$\vee$ or

if and only if (iff)

$a \Rightarrow b \quad b \Rightarrow a$

$a \Leftrightarrow b$

From yesterday

① Reflexive
* $\angle ABC = \angle ABC$

② Symmetric
* If $a=b$, then $b=a$

③ Transitive
* If $a=b$ and $b=c$, then $a=c$.

④ Substitution
* If $a=5$ and $a+b=11$, then $5+b=11$.

⑤ addition
* If $a-6=10$, then $a=16$
$+6 \quad +6$

⑥ Subtraction
* If $a+4=11$, then $a=7$.
$-4 \quad -4$

⑦ Division
* If $5 \cdot a = 20$, then $a=4$
$\div 5 \quad \div 5$

⑧ Multiplication
* If $\frac{a}{2}=7$, then $a=14$
$\times 2 \quad \times 2$

① If $AB+BC=XY+BC$, then $AB=XY$.
$-BC \quad -BC$

Subtraction

② $\angle ABC = \angle ABC$

Reflexive

③ If $AB+BC=XY$, then
$-BC \quad -BC$
$AB = XY - BC$.

Subtraction

④ If $\overline{AB} \cong \overline{BC}$ and $\overline{BC} \cong \overline{NT}$,
then $\overline{AB} \cong \overline{NT}$.

Transitive

⑤ If $AB+BC=XY$, then $XY = AB+BC$

Symmetric

⑥ If $AB=6$ and $AB+BC=10$,
then $6+BC=10$.

Substitution

⑦ If $AB=XY$, then $AB+BC=XY+BC$

addition

⑧ If $\angle ABC = \angle XYZ + \angle NTV$,
then $\angle ABC - \angle XYZ = \angle NTV$.

$-\angle XYZ$ from both sides

Subtraction

⑨ If $2=AB$ and $AB+BC=XY$,
then $2+BC=XY$.

Substitution

(10) If $-3 \cdot AB = BC$, then

$$AB = \frac{BC}{-3}.$$

Division