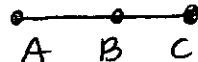


Definitions, Postulates, Properties, Theorems
Chapters 1 and 2

Segment Addition Postulate If B is between A and C, then

$$AB + BC = AC$$



Definition of congruent segments = segments that have equal length

If $\overline{DE} \cong \overline{FG}$, then $DE = FG$

Angle Addition Postulate If B lies on interior of $\angle MNO$, then

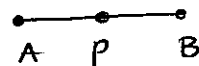
$$\angle MNB + \angle BNO = \angle MNO.$$

Definition of congruent angles = angles that have equal measure

$m\angle R = m\angle S$ then $\angle R \cong \angle S$

Definition of Midpoint = Point that divides segment into 2 \cong parts

P is midpoint of \overline{AB} so $AP = PB$

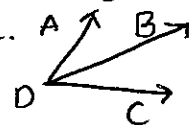


Midpoint Theorem If P is midpoint of \overline{AB} ,

then $AP = \frac{1}{2} AB$.

Definition of an angle bisector = ray that divides angle into 2 \cong angles

If \vec{DB} bisects $\angle ADC$, then $\angle ADB \cong \angle BDC$.



Angle Bisector Theorem If \vec{DB} bisects $\angle ADC$,

$m\angle ADB = \frac{1}{2} m\angle ADC$

Geometry Honors

Definition of a segment bisector = line, ray, segment, plane that intersects segment at its midpoint

Addition Property If $a = b$ $\underline{a + c} = \underline{b + c}$ $x + 3 = x + 3$

Subtraction Property If $a = b$ $\underline{a - c} = \underline{b - c}$

Multiplication Property If $a = b$, $ac = bc$

Division Property If $a = b$
and $c \neq 0$, $\frac{a}{c} = \frac{b}{c}$

Substitution Property If $m\angle 1 = m\angle 2$
and $m\angle 2 + m\angle 3 = 90$
then $\underline{m\angle 1} + m\angle 3 = 90$

Reflexive Property
 $x + 2 = 5$ and $x + 2 = 5$

Symmetric Property
 $x + 2 = 5$ and $5 = 2 + x$

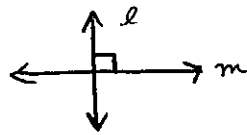
Transitive Property $\angle 1 \cong \angle 2$ and $\angle 2 \cong \angle 3$
so $\angle 1 \cong \angle 3$

Vertical Angle Theorem Vertical Angles are congruent.

Definition of supplementary angles = two angles whose measures have sum 180
If $\angle A$ and $\angle B$ are supplementary,
 $m\angle A + m\angle B = 180$

Definition of complementary angles = two angles whose measures have sum 90
If $\angle C$ and $\angle D$ are complementary,
then $m\angle C + m\angle D = 90$

Definition of perpendicular lines = 2 lines that intersect to form Right Angles



If two angles are supplements of congruent angles (or of same angle), then the two angles are congruent.

Pg. 61

If two angles are complements of congruent angles (or of same angle), then the two angles are congruent.

Pg. 56

If two lines are perpendicular, then they form congruent adjacent angles.

If two lines form congruent adjacent angles, then the lines are perpendicular.

If the exterior sides of two adjacent acute angles are perpendicular, then the angles are complementary.

C

C

C