

Geometry

Notes Section 2.5

Reason Using Properties from Algebra

PROPERTIES

Addition:

Subtraction:

Multiplication:

Division:

Substitution:

Distributive:

Reflexive:

Symmetric:

Transitive:

EXAMPLE 1 Solve and write a reason for each step.

a) $2x + 5 = 20 - 3x$

b) $-4(11x + 2) = 80$

c) $14x + 3(7 - x) = -1$

EXAMPLE 2 Solve the formula for the given variable.

a) $r = 0.70(220 - a)$

b) $A = \frac{1}{2}bh$ for b

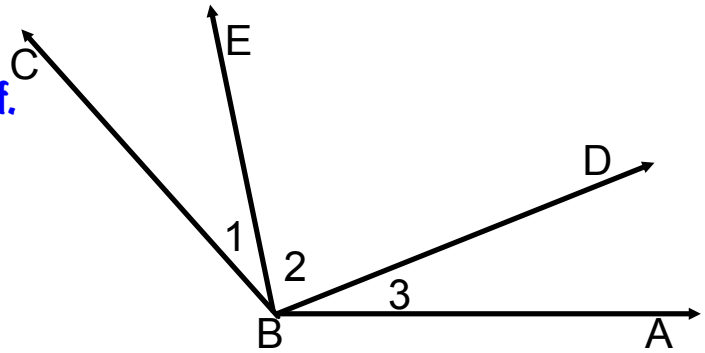
EXAMPLE 3 Name the property illustrated.

a) If $m\angle 6 = m\angle 7$, then $m\angle 7 = m\angle 6$

b) If $JK = KL$ and $KL = 12$, then $JK = 12$

c) $m\angle W = m\angle W$

EXAMPLE 4 Complete the proof.



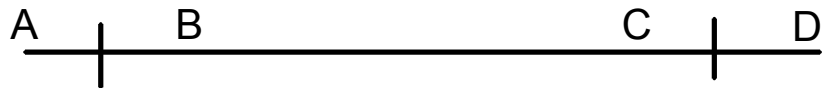
a) $m\angle 1 = m\angle 3$

$m\angle EBA = m\angle 3 + m\angle 2$

$m\angle EBA = m\angle 1 + m\angle 2$

$m\angle 1 + m\angle 2 = m\angle DBC$

$m\angle EBA = m\angle DBC$



b) $AB = CD$

$AC = AB + BC$

$BD = BC + CD$

$AB + BC = BC + CD$

$AC = BD$
