Alg 1 1.3
Recognize the properties of equality and identity.
Recognize the associative property

Reflexive a = aSymmetric a = 6 5 = aTransitive if a = b and b = cSubstitution wrote and. Additive identity a + 0 = a

Multiplicative identity $\alpha \cdot l < \alpha$ Multiplicative inverse

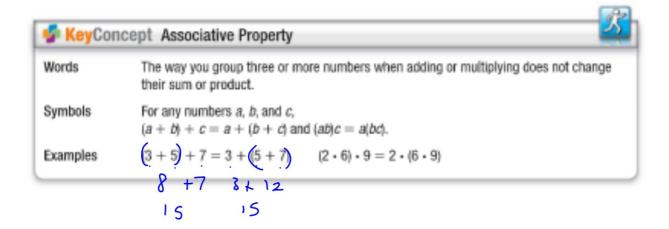
Commutative property Associative property

F KeyConce	pt Properties of Equality		a_b	
Property	Words	Symbols	Examples	
Beflexive Property	Any quantity is equal to itself.	For any number a , $a = a$.	5 = 5 4 + 7 = 4 + 7	
8ymmetric Property	If one quantity equals a second quantity, then the second quantity equals the first.	For any numbers a and b , if $a = b$, then $b = a$.	If $8 = 2 + 6$, then $2 + 6 = 8$.	
Transitive Property	If one quantity equals a second quantity and the second quantity equals a third quantity, then the first quantity equals the third quantity.	For any numbers $a, b,$ and $c,$ if $a = b$ and $b = c,$ then $a = c.$	If 6 + 9 = 3 + 12 and 3 + 12 =15, then 6 + 9 = 15.	
LSubstitution Property	A quantity may be substituted for its equal in any expression.	If $a = b$, then a may be replaced by b in any expression.	If $n = 11$, then $4n = 4 \cdot 11$	

P.16

∳ Key Concep	t Addition Properties		a _b	
Property	Words	Symbols	Examples	
Additive Identity	For any number a, the sum of a and 0 is a.	a + 0 = 0 + a = a	2 + 0 = 2 0 + 2 = 2	
Additive Inverse	A number and its opposite are additive inverses of each other.	$a+\langle -a\rangle=0$	3 + (-3) = 0 4 - 4 = 0	

Multiplication identity





Find the value of x. Then name the property used.

38.
$$8 = 8 + x$$

40.
$$10x = 10$$

42.
$$x + 0 = 5$$

$$8 = 8 + \times \times = 0$$
 add ident.

$$90 10 X = 10 X = 1$$

multident.

$$x+0=5$$
 $x=5$
add ident

39.
$$3.2 + x = 3.2$$

41.
$$\frac{1}{2} \cdot x = \frac{1}{2} \cdot 7$$

43.
$$1 \cdot x = 3$$

$$\frac{1}{2} \cdot x = \frac{1}{2} \cdot 7 \qquad X = 7$$
Swbs

44.
$$5 \cdot \frac{1}{5} = x$$
 $\times = 1$ recip.
46. $x + \frac{3}{4} = 3 + \frac{3}{4}$ $\times = 3$

45.
$$2+8=8+x$$
 $x=2$

47. $\frac{1}{3} \cdot x = 1$

reclp:

 $\frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} = 1$
 $\frac{1}{3} \cdot \frac{1}{3} = \frac{9}{7} = \frac{9}{7}$