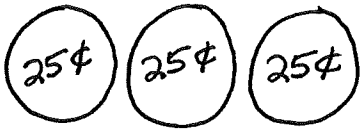
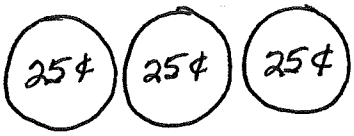
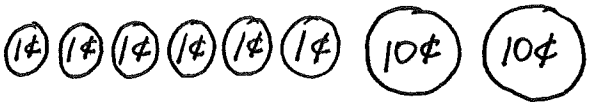
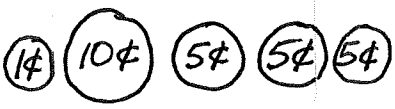
Algebra I
Notes 3.5 Addition and Subtraction Properties of Equality

Objectives: Use tiles to model the Addition and Subtraction Properties of Equality

Buster and Molly start with equal amounts of change. "Take away" coins from each so they both continue to have equal amounts.

Buster		Molly
		
	=	
take away	=	
take away	=	
take away	=	

In order to keep the amounts equal, you had to "take away" or subtract the same amount from each side.

> SUBTRACTION PROPERTY OF EQUALITY
>
> If equal amounts are subtracted from the expressions on each side of an equation, the expressions remain equal.

Use a tile model to solve each equation for the unknown variable.

1. $x + 4 = 9$

$=$

$x =$ ____

CHECK ___ + 4 = 9

2. $a + 1 = 7$

$=$

$a =$ ____

CHECK ____ + 1 = 7

3. $y + -3 = -5$

$=$

$y = \_\_\_\_$

CHECK $\_\_\_ + -3 = -5$

4. $b + -2 = -8$

$=$

$b = \_\_\_\_$

CHECK $\_\_\_\_ + -2 = -8$

5. $z + -4 = 6$

$=$

$z = \_\_\_\_$

CHECK $\_\_\_ + -4 = 6$

6. $c - 1 = 7$

$=$

$c = \_\_\_\_$

CHECK $\_\_\_\_ - 1 = 7$

ADDITION PROPERTY OF EQUALITY

If equal amounts are added to the expressions on each side of an equation, the expressions remain equal.

7. $x - 2 = 3$

$=$

$x = \_\_\_\_$

CHECK $\_\_\_ - 2 = 3$

8. $d - 1 = -3$

$=$

$d = \_\_\_\_$

CHECK $\_\_\_\_ - 1 = -3$

9. $y - 4 = 9$

$=$

$y = \_\_\_\_$

CHECK $\_\_\_ - 4 = 9$

10. $e - 1 = -7$

$=$

$e = \_\_\_\_$

CHECK $\_\_\_\_ - 1 = -7$

11. $z - 4 = -4$

$=$

$z = \_\_\_\_$

CHECK $\_\_\_ - 4 = -4$

12. $f - 8 = -2$

$=$

$f = \_\_\_\_$

CHECK $\_\_\_\_ - 8 = -2$