Name_____

TASK: CONJECTURES ABOUT PROPERTIES

With a partner look at the following sets of number sentences and determine if what you observe would be true for all numbers. Create statements with words about what you observe in each set of number sentences then write the number sentences using variables to represent numbers.

$12 + 0 = 12$ $37 + 0 = 37$ $64 + 0 = 64$	$12 - 0 = 12$ $37 - 0 = 37$ $64 - 0 = 64$	$12 \cdot 1 = 12$ $37 \cdot 1 = 37$ $64 \cdot 1 = 64$

$12 \div 1 = 12$ $37 \div 1 = 37$ $64 \div 1 = 64$	$12 \cdot 0 = 0$ $37 \cdot 0 = 0$ $64 \cdot 0 = 0$	$12 \div 0 = 12$ $45 \div 0 = 45$ $64 \div 0 = 64$

$12(4 + 3) = 48 + 36$ $6(7 + 2) = 42 + 12$ $4(10 + 3) = 40 + 12$	$12(4 - 3) = 48 - 36$ $6(7 - 2) = 42 - 12$ $4(10 - 3) = 40 - 12$

4 x 8 = (2 x 8) + (2 x 8)
8 x 16 = (4 x 16) + (4 x 16)
5 x 14 = (2.5 x 14) + (2.5 x 14)

4 + 8 = (2 + 8) + (2 + 8)
8 + 16 = (4 + 16) + (4 + 16)
5 + 14 = (2.5 + 14) + (2.5 + 14)

(32 + 24) + 16 = 32 + (24 + 16)
(450 + 125) + 75 = 450 + (125 + 75)
(33 + 17) + 3 = 33 + (17 + 3)

$6 \cdot (4 \cdot 3) = (6 \cdot 4) \cdot 3$
$10 \cdot (5 \cdot 2) = (10 \cdot 5) \cdot 2$
$(11 \cdot 2) \cdot 3 = 11 \cdot (2 \cdot 3)$