Name: .................................................................... Class: ...........................

## Write equivalent expressions using properties

**1.** Complete the expression below using the given property to get its equivalent expression.

$(4a \cdot 2) \cdot 3 = 4a \cdot \underline{\quad} \cdot 3 = 4a \cdot \underline{\quad} \cdot$ (use associative property of multiplication)

**2.** Select the property used given the expressions below.

$a \cdot 1 = a$

☐ identity property of addition      ☐ identity property of multiplication

☐ zero propery of multiplication      ☐ distributive property

$11 + b + 3 = b + 11 + 3 = b + 14$

☐ associative property      ☐ commulative property of addition

☐ associative property of addition      ☐ distributive property

$a \cdot 0 = 0$

☐ zero property of multiplication      ☐ identity property of addition

☐ commutative property of addition      ☐ identity property of multiplication.

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## Write equivalent expressions using properties

**1.** Complete the expression below using the given property to get its
equivalent expression.

( 4a . 2 ) . 3 = 4a . ____ . 3 = 4a . ____ . (use associative property of multiplication)

using associative property of multiplication

solve the first two expressions first.

that is, (4a . 2 ) . 3

= 4a . ? . 3 ( use the property here)

= ( 4a . 2 ) . 3 = 4a . 2 . 3

solve the last two expressions.

4a . 2 . 3 = 4a . _____

multiply 2 and 3 on the left side of the expression

4a . ( 2 x 3 ) = 4a . _____

4a . 6 = 4a . 6

So, the complete expression 4a. 2 . 3 = 4a . 2 . 3 = 4a . 6 are equivalent.

**2.** Select the property used given the expressions below.

a . 1 = a

☐ identity property of addition     ☑ identity property of multiplication

☐ zero propery of multiplication    ☐ distributive property

11 + b + 3 = b + 11 + 3 = b + 14

☐ associative property              ☐ commulative property of addition

☑ associative property of addition  ☐ distributive property

a . 0 = 0

☑ zero property of multiplication   ☐ identity property of addition

☐ commutative property of addition  ☐ identity property of multiplication.