**Using factor tiles to represent the meaning of the expression xo**

Use the tiles to represent and then simplify the following expressions:

a)  b)  c) 

d) What is left on your fraction line when all the corresponding pairs of like factors are removed from the numerator and the denominator?

1. So, what do you and your group think should be the meaning of the expression *x*0?
2. Summary:

 = xn-n = xo = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Using factor tiles to represent powers of monomials**

**Each group will need a set of factor tiles and a fraction bar.**

***red* tile (*R*): *x* *yellow* tile (*Y*): *y blue* tile (*B*): *z green* tile (*G*): *w***

**The number tiles are used for prime factors.**

Consider the expression (x2)3. Using the factor tiles, this could be modeled as:

   =  which is the model for x6

Activity:

1. Use the **factor tiles** to demonstrate simplification of monomial powers.

* + 1. Represent each product on the fraction bar.
    2. Rearrange the tile expression by putting like factors together.
    3. Using the rearranged tiled expression as a guide, write the final answer (in algebraic form) in the blank.

1. (x2)4  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. (y4)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. (xy2)4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. (x2yz2)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. (3xy)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Summarize the algebraic procedure for raising an monomial expression to a power. Specifically, what happens to the exponents? What happens to the coefficients?

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1. Mixed practice: Represent the following expression using the tiles, simplify the tiled expression, and then write the algebraic version of the simplified expression in the blank.

a)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_