**ML #2: Multiplying Expressions Involving Exponents (Exponent Unit - Math 7 Plus)**

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| --- |
| **Review of Combining Like Terms*** How many terms are in the expressions below?

  3x2 + 2y + x2 + 6y 3m3 + 2m2 + 5m2 + 7m3* Remember terms are split by addition and subtraction signs and you can combine like terms.
 |
| **Multiplying Expressions with the same Base****Think It Out:**

|  |  |
| --- | --- |
| What does a2 • a3 mean? | Simplify a2 • a3 |
| What does m • m2 $• $m3 mean? | Simplify m • m2 $• $m3 |

**RULE FOR MULTIPLYING EXPRESSIONS WITH THE SAME BASE****TRY THESE: Simplify**1) 3 $• $33 2) 3-4 • 34  3) (2fg2)(4fg)(3f-2g5)4) Find the area of rectangle. 3x 9x3 |
| **Power to a Power*** **Use what you know to find a shortcut for simplifying expressions with powers. Complete each statement by showing equivalent expressions. Let your final answer be written as a base raised to a single power.**
1. $\left(3^{6}\right)^{2}= 3^{6}•3^{6}= $
2. $\left(5^{4}\right)^{3}= 5^{4}•5^{4}•5^{4}=$
3. $\left(x^{7}\right)^{4}=\\_\\_\\_\\_\\_\\_•\\_\\_\\_\\_\\_\\_•\\_\\_\\_\\_\\_\\_•\\_\\_\\_\\_\\_\\_=$
4. $\left(m^{5}\right)^{5}=\\_\\_\\_\\_\\_\\_•\\_\\_\\_\\_\\_\\_•\\_\\_\\_\\_\\_\\_•\\_\\_\\_\\_\\_\\_•\\_\\_\\_\\_\\_\\_=$
5. $\left(1^{4}\right)^{6}=$
6. $\left(k^{2}\right)^{4}=$

***Look at your answers.*** * What do you notice about the two exponents in the original expression as compared to the value of the exponent in the final expression?
* What operation would allow you to go straight from the original two exponents to the final one?

**RULE FOR POWER TO A POWER WITH THE SAME BASE****TRY THESE: Simplify**1) (m2n4)3 2) (2b)2 3) (4gh)2 • (2g2h2)-3 |

Practice for Exponent Unit ML #2: Multiplying Expressions with the Same Base (Math 7+)

**TRY THESE: Simplify**

1) a5 • a • b2 • b3 2) -2 • x2 • 3 • x5 3) -5c-2 • -3c7

4) Find the area of the rectangle. 4d2

 3d2 + 4

5) (3x3y3)5 6) (7d2)2 • -3d-3 7) xy2(xy)3

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