- How would I explain the terms *product* and *factors* using the expression shown below?

$$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

- How would I explain and demonstrate writing the expression shown below as a *power?*

$$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

- How would I compare the different forms for representing the product 128?

$$2^7 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 128$$

- Writing the expression with brackets changes the look, but not the product. How would I verify?

$$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

$$(2 \times 2 \times 2) \times (2 \times 2 \times 2 \times 2)$$

- How could I rewrite the power 2^7 to illustrate the expression with brackets?

$$2^7 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

$$(2 \times 2 \times 2) \times (2 \times 2 \times 2 \times 2)$$

- 2^7 represents the *product* 128 as a *power.* How does $2^3 \times 2^4$ represent the *product* 128?

$$2^7 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 128$$

$$2^3 \times 2^4 = (2 \times 2 \times 2) \times (2 \times 2 \times 2 \times 2) = 128$$

- How would I describe any similarities occurring throughout the multiplication shown below?

$$2^2 \times 2^5 = (2 \times 2) \times (2 \times 2 \times 2 \times 2 \times 2) = 128$$
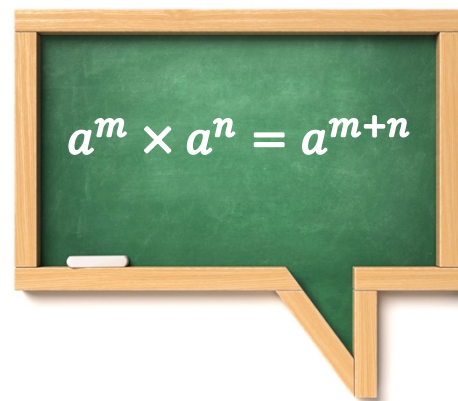
$$2^2 \times 2^3 \times 2^2 = (2 \times 2) \times (2 \times 2 \times 2) \times (2 \times 2) = 128$$

The Exponent Law for a *Product of Powers* allows me to simplify an expression when multiplying powers with the same base.

- How would I explain the phrase *simplify an expression* using the examples shown below?

$$2^2 \times 2^5$$

$$2^2 \times 2^3 \times 2^2$$

$$a^m \times a^n = a^{m+n}$$

- How would I demonstrate using the *Product of Powers Law* to *simplify* each expression?

$$2^2 \times 2^5$$

$$2^2 \times 2^3 \times 2^2$$

- How does *simplifying* an expression help me when *evaluating* the expression?

$$2^2 \times 2^5$$

$$2^2 \times 2^3 \times 2^2$$

- How would I explain and demonstrate *simplifying,* then *evaluating* the expression?

$$5^3 \times 5^2$$

- An error was made *simplifying* this expression. How would I explain and correct the error?

$$(-3)^2 \times (-3)^3 \times (-3) = (-3)^5$$

Which statements do I feel confident explaining and demonstrating?
Which statements do I <u>not</u> feel confident explaining and demonstrating?

✓ I can <u>explain</u> and <u>demonstrate</u> writing a product as a power

✓ I can <u>explain</u> and <u>demonstrate</u> writing a product as repeated multiplication

✓ I can <u>compare</u> a Product as a Power to a Product of Powers

✓ I can <u>explain</u> and <u>demonstrate</u> simplifying an expression using the Exponent Law for a Product of Powers