10.2

Product of Powers Property

Do Now

Evaluate the following

1) $2^3 =$

2) $3^2 =$

3) $(-2)^4 =$

4) $-2^4 =$

Product of Powers Property

Example 1

$$a^2 \bullet a^3$$

Example 2

$$m^3 \bullet m^4$$

Let' see...

1) $a^7 \bullet a^8$

2) $f^5 \bullet f^9$

3) $5^2 \bullet 5^3$

4) $\left(\frac{3}{4}\right) \bullet \left(\frac{3}{4}\right)^4$

5) $x \bullet x^2 \bullet x^3$

The Product of Powers Property:

To multiply powers with the same base _____

_____.

...with coefficients

6) $(5m^7)(8m^8)$

7) $(-7x^4y^3)(4x^2y^6)$

Power of Powers Property

Example 3

$$(n^2)^3$$

Example 4

$$(c^7)^5$$

Let' see...

6) $(5^2)^3$

7) $(x^3)^4$

8) $\left[\left(\frac{3}{4}\right)^2\right]^4$

9) $\left[(-8)^4\right]^6$

The Power of Powers Property:

To find a power of a power _____ .

Power of Product Property

Example 5

$$(2d^4)^3$$

Example 6

$$(-4m^2)^3$$

Let' see...

10) $(5d^4)^3$

11) $(-8d^7)^2$

12) $(-3x^2y^5)^3$

13) $(24 \bullet 13)^8$

The Power of Products Property:

_____

_____ .

Practice

14) $(-5)^2(-5)^7$

15) $(6^3)^4$

16) $x \bullet (3x)^4$

17) $-(2d)^6$