Quiz



October 18, 2019

Section 2.4

Exponent Laws I

Write each expression as a product [Repeated multiplication] and then

[Repeated multiplication] and then			
evaluate:	Product[repeated multiplication]	Evaluate	Single Power
$^{1)}3^2 \times 3^2$	3x3 x3 x3	81	34
2) $2^2 \times 2^5$	212 X a x a x a x a x a	128	2
3) $(-5)^2 \times (-5)^4$	(-5)(-5)(-5)(-5)	15625	(-5)6
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Exponent Law for a Product of Powers To multiply powers with the same base, add the exponents.



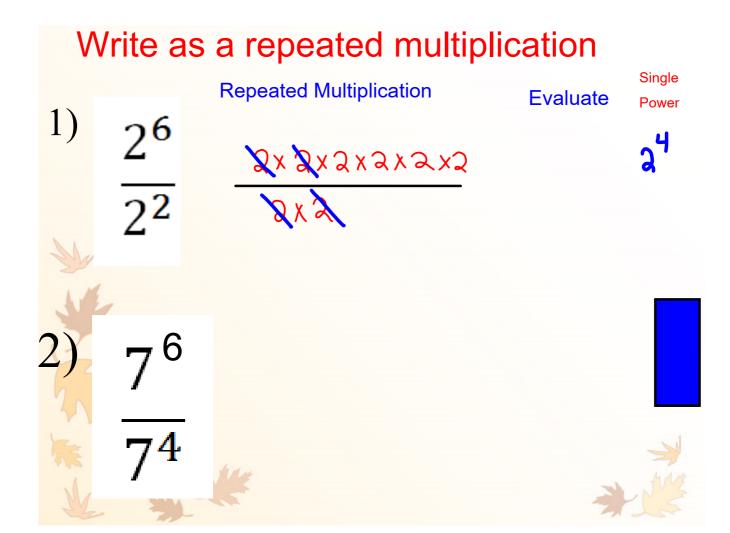
$$a^m \times a^n = a^{m+n}$$

must be the same base

$$8^4 \times 8^3 = 8^{4+3}$$
 middle step single power

- 1. Write as a single power.
 2. Evaluate

1)
$$7^{2} \times 7^{4}$$
 2) $(-2)^{5} \times (-2)^{3}$ 3) $4^{5} \times 4^{4}$ middle step 7^{2+4} $(-2)^{5+3}$ 4^{5+4} 4^{5+4} single power $(-2)^{8}$ 4^{6} 4^{6} 4^{6} 4^{6} 4^{6}



$$\frac{(-5)^7}{(-5)^3}$$

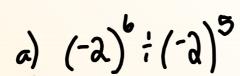
Exponent Law for a Quotient of Powers [dividing]

To divide powers with the same base, subtract the exponents.

$$a^{m} \div a^{n} = a^{m-n} \left\langle \frac{a^{m}}{a^{n}} \cdot a^{m-n} \right\rangle$$

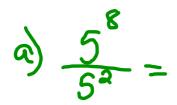
The base must be the same!

Middle step single



power

Express as a single power then evaluate



 $(-2)^{\circ}$

middle step

Single power

Evaluate

Express as a single power.

a)
$$3^2 \times 3^4 + 3^3$$

Middle step

middle step

Express as a single power:

1.
$$3^4 \times 3^6 + 3^2$$

$$2. \frac{3^8 \times 3^9 \times 3}{3^4 \times 3^2}$$