

PROGRESSIONS:
PEER-LED TEAM LEARNING

Module 3: Exponents

Objectives

- ❖ To review the properties of exponents
- ❖ To use the properties to simplify exponents

Module 3A: Post Lecture

Properties of Exponents

Multiplication/Product Rule	$x^m \cdot x^n =$	
Division/Quotient Rule	$\frac{x^m}{x^n} =$	where $(x \neq 0)$
Zero Exponent	$x^0 =$	where $(x \neq 0)$
Power of a Power	$(x^m)^n =$	
Power of a Product	$(x \cdot y)^n =$	
Power of a Quotient	$\left(\frac{x}{y}\right)^n =$	where $(y \neq 0)$
Negative Exponent	$x^{-n} =$	where $(x \neq 0)$

As a group of two, show two different ways of simplifying exponents. Write the property used for each step, if applicable.

1. Simplify $(4a)^0 + 4a^0$

Method 1	Property	Simplify: $(4a)^0 + 4a^0$
Steps		
1		
2		
3		

Method 2	Property	Simplify: $(4a)^0 + 4a^0$
Steps		
1		
2		
3		

2. Simplify $(-5a^{-7}b^3)(-2a^2bc^{-4})$

Method 1	Property	Simplify $(-5a^{-7}b^3)(-2a^2bc^{-4})$
Steps		
1		
2		
3		
4		
5		

Method 2	Property	Simplify $(-5a^{-7}b^3)(-2a^2bc^{-4})$
Steps		
1		
2		
3		
4		
5		

3. Simplify $\frac{45p^6q^4}{-9pq^{-6}}$

Method 1	Property	Simplify $\frac{45p^6q^4}{-9pq^{-6}}$
Steps		
1		
2		
3		
4		
5		

Method 2	Property	Simplify $\frac{45p^6q^4}{-9pq^{-6}}$
Steps		
1		
2		
3		
4		
5		

4. Simplify $\frac{a^{-9}bc^3}{a^4b^{-6}c^3}$

Method 1	Property	Simplify $\frac{a^{-9}bc^3}{a^4b^{-6}c^3}$
Steps		
1		
2		
3		
4		
5		

Method 2	Property	Simplify $\frac{a^{-9}bc^3}{a^4b^{-6}c^3}$
Steps		
1		
2		
3		
4		
5		

5. Simplify $(-2wr^{-2}t^4)^3$

Method 1	Property	Simplify $(-2wr^{-2}t^4)^3$
Steps		
1		
2		
3		
4		
5		

Method 2	Property	Simplify $(-2wr^{-2}t^4)^3$
Steps		
1		
2		
3		
4		
5		

6. Simplify $\left(\frac{3x^{-5}x^7}{x^8}\right)^{-3}$

Method 1	Property	Simplify $\left(\frac{3x^{-5}x^7}{x^8}\right)^{-3}$
Steps		
1		
2		
3		
4		
5		
Method 2	Property	Simplify $\left(\frac{3x^{-5}x^7}{x^8}\right)^{-3}$
Steps		
1		
2		
3		
4		
5		

7. Simplify $\left(\frac{2r^4s^{-6}}{r^{-3}s^8}\right)^4$

Method 1	Property	Simplify $\left(\frac{2r^4s^{-6}}{r^{-3}s^8}\right)^4$
Steps		
1		
2		
3		
4		
5		
Method 2	Property	Simplify $\left(\frac{2r^4s^{-6}}{r^{-3}s^8}\right)^4$
Steps		
1		
2		
3		
4		
5		

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