math Antics
Exercises

Name:

Date:

Laws of Exponents

1 Simplify this expression.

$5^0 = 1$

2 Simplify this expression.

$y^1 = y$

3 Simplify this expression.

$2^{-1} = \frac{1}{2^1}$ or $\frac{1}{2}$ (or 0.5)

4 Re-write without using fraction form.

$\frac{1}{x^3} = x^{-3}$

5 Simplify this expression.

$(x^2)^5 = x^{2 \cdot 5} = x^{10}$

6 Simplify this expression.

$(x^a)^b = x^{a \cdot b}$ or x^{ab}

7 Simplify this expression.

$a^2 \cdot a^4 = a^{2+4} = a^6$

8 Simplify this expression.

$a^2 \cdot a^{-4} = a^{2+(-4)} = a^{-2}$ or $\frac{1}{a^2}$

9 Simplify this expression.

$\frac{x^7}{x^5} = x^{7-5} = x^2$

10 Can this be simplified? If "yes", then simplify it. If "no", then explain why.

$\frac{a^2}{b^8} =$ No, It can't be simplified because the bases are different.

11 Simplify this expression.

$(ab)^3 = a^3b^3$

12 Simplify this expression.

$\left(\frac{x}{2y}\right)^2 = \frac{x^2}{(2y)^2} = \frac{x^2}{4y^2}$

See Video for step-by-step solutions to each problem.

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