MathVine - Pre-Algebra Name_____

Exponentiating Exponents Date_____ Period_____

Convert to exponent form.

1) $\left(x^3\right)^3$

2) $\left(x^3\right)^2$

3) $\left(x^2\right)^4$

4) $\left(x^4\right)^5$

5) $\left(x^3\right)^5$

6) $\left(x^2\right)^5$

7) $\left(x^4\right)^4$

8) $\left(x^5\right)^4$

9) $\left(x^2\right)^2$

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Convert to exponent form.

1) $(x^3)^3$

Answer: x^9

2) $(x^3)^2$

Answer: x^6

3) $(x^2)^4$

Answer: x^8

4) $(x^4)^5$

Answer: x^{20}

5) $(x^3)^5$

Answer: x^{15}

6) $(x^2)^5$

Answer: x^{10}

7) $(x^4)^4$

Answer: x^{16}

8) $(x^5)^4$

Answer: x^{20}

9) $(x^2)^2$

Answer: x^4

Exponentiating Exponents Date_____ Period_____

Solution Steps

1) $\left(x^{3}\right)^{3}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{3}\right)^{3} = x^{(3*3)}$

x^{9}

2) $\left(x^{3}\right)^{2}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{3}\right)^{2} = x^{(3*2)}$

x^{6}

3) $\left(x^{2}\right)^{4}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

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

x^{8}

4) $\left(x^{4}\right)^{5}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{4}\right)^{5} = x^{(4*5)}$

x^{20}

5) $\left(x^{3}\right)^{5}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{3}\right)^{5} = x^{(3*5)}$

x^{15}

6) $\left(x^{2}\right)^{5}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{2}\right)^{5} = x^{(2*5)}$

x^{10}

7) $\left(x^{4}\right)^{4}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{4}\right)^{4} = x^{(4*4)}$

x^{16}

8) $\left(x^{5}\right)^{4}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{5}\right)^{4} = x^{(5*4)}$

x^{20}

9) $\left(x^{2}\right)^{2}$

When you have an exponent expression raised to a power, you have to multiply the two exponents

$\left(x^{2}\right)^{2} = x^{(2*2)}$

x^{4}