More Power Rules of Exponents - Examples

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- We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^m$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} =$$

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▸ We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3}$$

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3}$$

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▸ We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

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▸ We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^m$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^3 = 4^3 = 64$$

Conclusion: $16^{3/2} = 64$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^m$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^3 = 4^3 = 64$$

Conclusion: $$16^{3/2} = 64$$

Example 2: Compute

$$16^{3/4} =$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3}$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^m$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^3 = 4^3 = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^3 = 2^3$$

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▸ We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $$16^{3/2} = 64$$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $$16^{3/4} = 8$$

Example 3: Compute

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $$16^{3/2} = 64$$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $$16^{3/4} = 8$$

Example 3: Compute

$$16^{5/4} =$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5}$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^m$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^3 = 4^3 = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^3 = 2^3 = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^5 = 2^5$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

$$16^{6/4} =$$

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We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

$$16^{6/4} = \sqrt[4]{16}^{6}$$

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^m$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^3 = 4^3 = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^3 = 2^3 = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^5 = 2^5 = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

$$16^{6/4} = \sqrt[4]{16}^6 = 2^6$$

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

$$16^{6/4} = \sqrt[4]{16}^{6} = 2^{6} = 64$$

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

$$16^{6/4} = \sqrt[4]{16}^{6} = 2^{6} = 64$$

Conclusion: $16^{6/4} = 64$

More Power Rules of Exponents - Examples

We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

$$16^{6/4} = \sqrt[4]{16}^{6} = 2^{6} = 64$$

Conclusion: $16^{6/4} = 64$

Notice: $16^{6/4} = 64 = 16^{3/2}$

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▸ We saw that we can define fractional exponents as:

$$x^{m/n} = \sqrt[n]{x}^{m}$$

Example 1: Compute

$$16^{3/2} = \sqrt{16}^{3} = 4^{3} = 64$$

Conclusion: $16^{3/2} = 64$

Example 2: Compute

$$16^{3/4} = \sqrt[4]{16}^{3} = 2^{3} = 8$$

Conclusion: $16^{3/4} = 8$

Example 3: Compute

$$16^{5/4} = \sqrt[4]{16}^{5} = 2^{5} = 32$$

Conclusion: $16^{5/4} = 32$

Example 4: Compute

$$16^{6/4} = \sqrt[4]{16}^{6} = 2^{6} = 64$$

Conclusion: $16^{6/4} = 64$

Notice: $16^{6/4} = 64 = 16^{3/2}$

This should not come as a surprise since $\dfrac{6}{4} = \dfrac{3}{2}$