**6.4 Rational Exponents**.  
Objective: To simplify expressions with rational exponents

**Simplifying Expressions with Rational Exponents:**

Example:

**Properties of Rational Exponents to Remember**;

*Let a and b be real numbers and let m and n be rational numbers.*

|  |  |  |
| --- | --- | --- |
| **Property** | **Equation** | **Example** |
| *Product of Powers* | am \* an = am+n |  |
| *Power of a Power* | (am)n = am\*n |  |
| *Power of a Product* | (ab)m = ambm |  |
| *Negative Exponent* | , a ≠ 0 |  |
| *Zero Exponent* | a0 = 1, a ≠ 0 |  |
| *Quotient of Powers* | , a ≠ 0 |  |
| *Power of a Quotient* | , b ≠ 0 |  |

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