

Radicals with Variables - Day 2

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225...

Variable terms are perfect squares **IF**:

the exponent is even

To take the square root of a variable term:

divide the exponent by 2.

1. $\sqrt{x^6}$
 x^3

2. $\sqrt{m^4 n^{10}}$
 $m^2 n^5$

3. $\sqrt{a^7}$
 $\sqrt{a^6} \sqrt{a}$
 $a^3 \sqrt{a}$

4. $\sqrt{16a^5}$
 $\sqrt{16} \sqrt{a^4} \sqrt{a}$
 $4a^2 \sqrt{a}$

5. $\sqrt{27c^3 d^9}$
 $\sqrt{27} \sqrt{c^3} \sqrt{d^9}$
 $\sqrt{9} \sqrt{3} \sqrt{c^2} \sqrt{c} \sqrt{d^8} \sqrt{d}$
 $\sqrt{9} \sqrt{c^2} \sqrt{d^8} \sqrt{3cd}$
 $3c d^4 \sqrt{3cd}$

Annotations: separate, break apart, reorganize, Take rational roots

6. $\sqrt{50m^{10} n^{15}}$
 $\sqrt{50} \sqrt{m^{10}} \sqrt{n^{15}}$
 $\sqrt{25} \sqrt{2} \sqrt{m^{10}} \sqrt{n^{14}} \sqrt{n}$
 $\sqrt{25} \sqrt{m^{10}} \sqrt{n^{14}} \sqrt{2n}$
 $5m^5 n^7 \sqrt{2n}$

HOMEWORK

Worksheet - HW Radicals with
Variables - Day 2