Unit Conversions

- Make sure you keep all your units diagonal
- KHDbdcm
- Example: Convert 50 miles per hour to feet per second

Parts of an Expression

$$x^3 - 2x^2 + 3x - 4$$

Identify:

Terms:

Degree:

Coefficients:

Constants:

Rational vs Irrational

- Real, Rational, Integer, Whole, Counting
- Real, Irrational

Rational + Rational =

Rational + Irrational =

Irrational + Irrational =

Irrational * Irrational +

Operations with Polynomials

Adding and Subtracting

- Combine like terms
- When subtracting distribute the negative 1st

Example 1:

 $(2r^3 + 5r^2 - 2r) + (5r^4 - 3r - 3r^2)$

Example 2:

 $(7r^3 + 5r^2 + r^4) - (r^4 + 4r^3 - 8r^2)$

Multiplying

- Double Distribution
- Combine like Terms

Example: (n-4)(5n+2)

Radicals

Simplifying

- Need to find a perfect square and a prime number
- Take the square root of the perfect square and place it outside of the radical
- The prime or imperfect number stays on the inside
- Variables: divide the exponents by two (find the groups of two)

Example 1:

 $\sqrt{32}$

Example 2:

 $\sqrt{72x^4v^3}$

Adding and Subtracting

- Must have like radicands: the same number underneath the house (simplify)
- Only add the coefficients

Example 1:
$$-\sqrt{45} + 2\sqrt{5}$$

Example 2:
$$-\sqrt{27} + 2\sqrt{12} - 3\sqrt{8}$$

Multiplying Radicals

- Multiply the outside with outside and inside with inside
- Simplify

Example 1:
$$-3\sqrt{3}\cdot\sqrt{6}$$

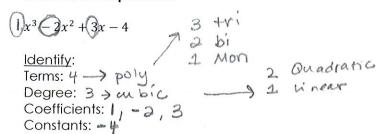
$$-3\sqrt{3}\cdot\sqrt{6}$$

Example 2:
$$2\sqrt{10}(\sqrt{2} + 2\sqrt{3})$$

Unit Conversions

- Make sure you keep all your units diagonal
- KHDbdcm

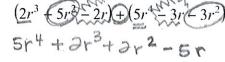
Parts of an Expression



Operations with Polynomials

Adding and Subtracting

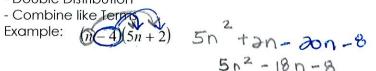
- Combine like terms
- When subtracting distribute the negative 1st



Multiplying

- Double Distribution





Radicals

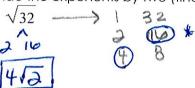
Simplifying

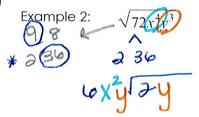
4,9,16,25,36,49,64, 81,100,121,144,169,196,225,256...

Example 2:

- Need to find a perfect square and a prime number 2,3,5,4,7,10,17,0,00
- Take the square root of the perfect square and place it outside of the radical
- The prime or imperfect number stays on the inside
- Variables: divide the exponents by two (find the groups of two)







Rational vs Irrational

Rational + Rational = R Rational + Irrational = T Irrational + Irrational = 7

- Real, Irrational

- Real, Rational, Integer, Whole, Counting

Irrational * Irrational # SO METINES R

 $(7r^3 + 5r^2 + r^4)$ $(r^4 + 4r^3 - 8r^2)$

Va * Va = 14

Adding and Subtracting

- Must have like radicands: the same number underneath the house (simplify)
- Only add the coefficients

Example 1:
$$-3\sqrt{45} + 2\sqrt{5}$$

9 5
 $-3\sqrt{5} + 3\sqrt{5} = -1\sqrt{5}$

Multiplying Radicals

- Multiply the outside with outside and inside with inside
- Simplify







