

## Chapter 10-1 Notes: +/- Polynomials

Polynomial: a sum of the terms of an expression. The expression can contain exponents, but they must be positive.

### Writing Polynomials in Standard Form

- combine all LIKE terms
- order the terms with exponents decreasing left to right

Simplify and write in standard form.

$$1. \ 3(k^3 + 2k^2) - k^4 - 2k^3$$

Simplify and write in standard form.

1.  $3(k^3 + 2k^2) - k^4 - 2k^3$  *distribute*

$$\overbrace{3k^3 + 6k^2 + -k^4 + -2k^3}^{\text{Combine}}$$

order by power

$$-k^4 + k^3 + 6k^2$$

Simplify and write in standard form.

$$2. ( 3y^2 + 8y - 12 ) + ( y^3 - 6y^2 + 3y - 4 )$$

Simplify and write in standard form.

$$2. \underbrace{(3y^2 + 8y - 12)}_{+} + \underbrace{(y^3 - 6y^2 + 3y - 4)}_{+}$$

addition so combine like terms

$$y^3 + -3y^2 + 11y + -16$$

Simplify and write in standard form.

$$3. (d^2 + 5d + 2) - (3d^2 + d + 2)$$

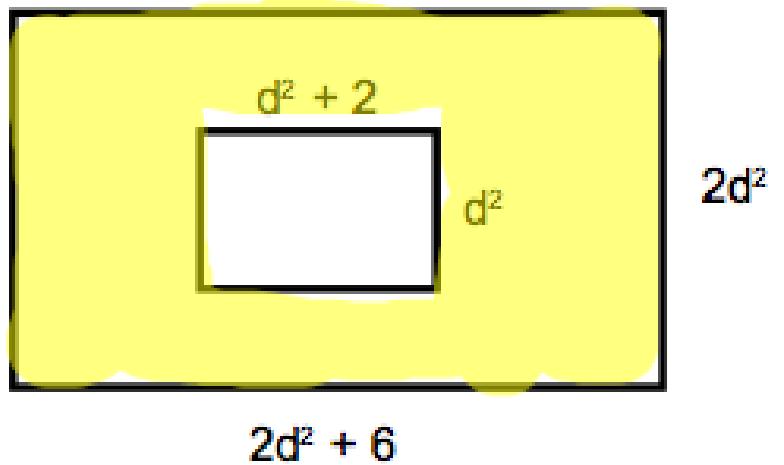
Simplify and write in standard form.

$$3. (d^2 + 5d + 2) - (3d^2 + d + 2)$$

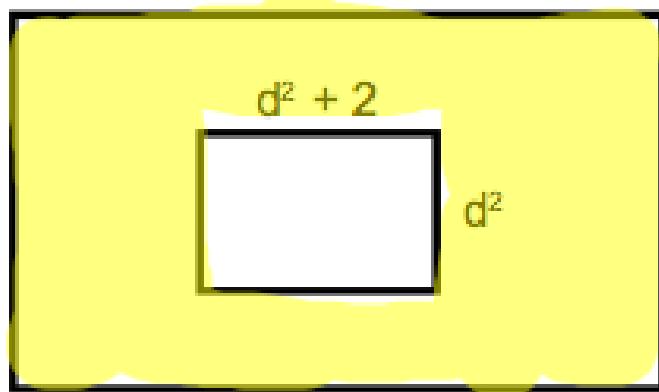
Subtraction so every term in the second parentheses becomes the opposite  
then combine like terms

$$-2d^2 + 4d$$

4. Write a simplified expression for the area of the shaded region.



4. Write a simplified expression for the area of the shaded region.



Area of Rectangle  
 $l \cdot w$

$$2d^2(2d^2+6) - d^2(d^2+2)$$

$$4d^4 + 12d^2 - d^4 - 2d^2$$

Combine  
like  
terms

$$3d^4 + 10d^2$$