**Polynomials can be classified in two ways:**

(1) by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(2) by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on a variable.

**Classifying by number of terms...**



**Classifying by degree...**



For degrees of 5 or higher, we just say \_\_\_\_ degree or degree of \_\_\_\_.

**Does order matter?**

Yes! We always write polynomials in **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Adding Polynomials**

Adding polynomials is as simple as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Remember you do \_\_\_\_\_\_\_\_\_\_\_\_\_\_ change the exponents!

**Example # 1: Simplify completely.**



**Subtracting Polynomials**

Distribute the \_\_\_\_\_\_\_\_\_\_ sign, then combine like terms. Remember you do \_\_\_\_\_\_\_\_\_\_ change the exponents!

**Example # 2: Simplify completely.**



**Multiplying Polynomials**

Multiply the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ the exponents when multiplying like \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If the variables are different, write them next to one another in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ order.

**Example # 3: Simplify completely.**

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| --- | --- |
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