***Polynomials and Collecting Like Terms***

A **term** is the product of a **coefficient** and **variable** part

*EX/ 3x 5x2 11 –1x 5ab*

A **polynomial** is a collection of one or more terms joined by addition or subtraction

*EX/* 5x22x + (–1) 3x2 + (–2x) + 1 a + (–2b) + c 54x3y2 + (–3x4y1)

BEWARE THE INVISIBLE 1!!!

x 🡪 1x –x 🡪 –1x (x + 4) 🡪 1(x + 4) – (x – 3) 🡪 –1(x – 3)

BE AWARE OF DIFFERENT STYLES THAT MEAN THE SAME THING

–1 🡨🡪 +(–1) –x 🡨🡪 +(–x) –4x 🡨🡪 +(–4x)

**Like terms** have identical variable parts. **Unlike terms** have different variable parts.

EX/ Which of the following are “like terms”?

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5x | 7xy | ***–***3x | 3.2 | 11x2 | x | ***–***4x2 | 3x3 | -3xy | x2 |

***Collecting like terms means grouping (by addition or subtraction) the like terms.  
Only add/subtract the coefficients, do not change the variables.***

EX/ Collect the like terms. Use algebra tiles to represent the solution.

1. 2x + 3x

1. 4x + (–1x)
2. 2x + 1 + (–3) + (–3x)




8. 3d + (– 2) + (–1d) + (–2d)

1. 3 – 2c + 2c2 – c2 + c + 1
2. 2x + 2 + 2x + 3 – 4x – 2

EX/ Collect the like terms without algebra tiles.

1. 7m + 5m
2. 3u + 2v + (–u) + (–6v)
3. – x – 8y + 6x + 11 – 4y
5. 
6. 
8. –3r2 + (–4pr) + 4p2 + (–7pr) + r2 + (–5p2)