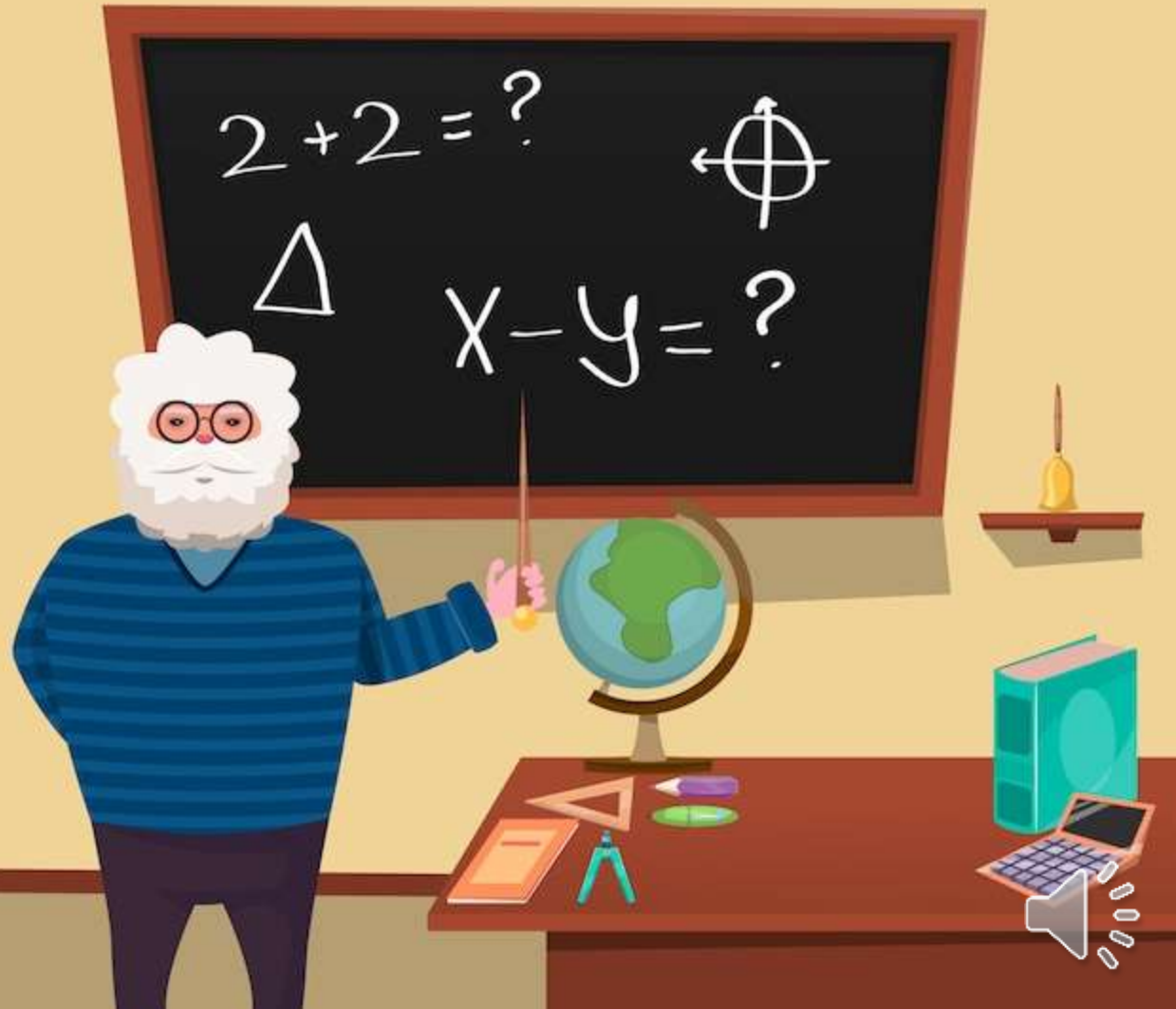
Algebraic Expressions

Part 3



1. Recall : the common factor is monomial

Example : $28x^4yt^3 - 35x^3yt =$

What is the common factor ??

7 x^3 y t

Remember, we take the variable with lowest degree

$$28x^4yt^3 - 35x^3yt = 7x^3yt(4xt^2 - 5)$$

Application : Factorize

- $16x^3 - 24x^2$
- $24a^3 + 8a^2 + 16a$
- $121t^6 - 33t^5y + 11t^5$
- $25x^3y^2t + 15x^2yt - 20x^4y^3t$

Make Pause Now
Solve alone then
check your answers

BSA
BE SMART ACADEMY

Check Your Answers Now

- $16x^3 - 24x^2 = 8x^2(2x - 3)$
- $24a^3 + 8a^2 + 16a = 8a(3a^2 + a + 2)$
- $121t^6 - 33t^5y + 11t^5 = 11t^5(11t - 3y + 1)$
- $25x^3y^2t + 15x^2yt - 20x^4y^3t = 5x^2yt(5xy + 3 - 4x^2y^2)$

Don't forget to put 1

BSA
BE SMART ACADEMY

2.Recall : the common factor is binomial

- **Example** : $(2x+1)(6x-5)-(3x-1)(2x+1)$

$$=(2x+1)[6x-5-(3x-1)]$$

$$=(2x+1)(6x-5-3x+1)$$

$$=(2x+1)(3x-4)$$

Don't forget to put the brackets after the minus sign !!

BSA
BE SMART ACADEMY

Application : Factorize

- $(2x+1)(3x+1)-5x(2x+1)$
- $(5x-7)(3x+7)-(10x-14)(x-2)$
- $(6x+11)(4x-7)-(6x+11)^2$
- $(3x-8)^2-(9x-24)+(8x-3)(3x-8)$

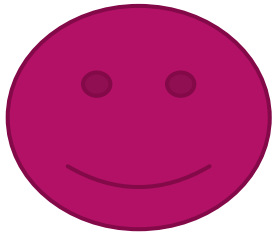
Make Pause Now
Solve alone then
check your answers

BSA
BE SMART ACADEMY

Check Your Answers Now

- $(2x+1)(3x+1)-5x(2x+1)=(2x+1)(3x+1-5x)=(2x+1)(-2x+1)$

- $(5x-7)(3x+7)-(10x-14)(x-2)=(5x-7)(3x+7)-2(5x-7)(x-2)$
  $=(5x-7)(3x+7-2x+4)=(5x-7)(x+11)$



- $(6x+11)(4x-7)-(6x+11)^2=(6x+11)[4x-7-(6x+11)]$
  $=(6x+11)(4x-7-6x-11)=(6x+11)(-2x-18)=-2(6x+11)(x+9)$

- $(3x-8)^2-(9x-24)+(8x-3)(3x-8)=(3x-8)^2-3(3x-8)+(8x-3)(3x-8)$
  $=(3x-8)(3x-8-3+8x-3)=(3x-8)(11x-14)$