FACTORING – OH THE POSSIBILITIES!

Start Here → **Is there a Common Factor?** — **Yes** → **Factor out Common Factor.**

No ↓

How many terms are there? — **4** →

2 ↓

3 ↓

No →

Difference of Squares
$$a^2 - b^2 = (a+b)(a-b)$$

Sum of Squares
$$a^2 + b^2 \text{ Does not Factor}$$

Sum/Difference of Cubes
$$a^3 + b^3 = (a+b)(a^2 - ab + b^2)$$
$$a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

Done!

Is it a perfect square trinomial?
$$a^2 + 2ab + b^2 = (a+b)^2$$
$$a^2 - 2ab + b^2 = (a-b)^?$$

Done!

What form is it?
$$x^2 + bx + c \text{ or } ax^2 + bx + c$$

If Possible

$x^2 + bx + c$
Find 2 numbers that
ADD to b and MULTIPLY to c

c
b $(x + \_\_)(x + \_\_)$

$ax^2 + bx + c$
Find 2 numbers that
ADD to b and MULTIPLY to ac

ac
b $ax^2 + \_x + \_x + c$

Factor by
GROUPING
or
BOX METHOD

Done!

Done!