

STEPS FOR FACTORING (no matter what kind of polynomial it is.)

Step 1:	Factor out the GCF, if there is one.
Step 2:	Count the number of terms.
Step 3:	<p>A) <u>2 terms</u></p> <ul style="list-style-type: none"> • Is it a <i>difference of squares?</i> $A^2 - B^2 = (A + B)(A - B)$ • Is it a <i>difference of two cubes?</i> $A^3 - B^3 = (A - B)(A^2 + AB + B^2)$ • Is it a <i>sum of two cubes?</i> $A^3 + B^3 = (A + B)(A^2 - AB + B^2)$ <p>B) <u>3 terms</u></p> <ul style="list-style-type: none"> • Is it a perfect square trinomial? <ul style="list-style-type: none"> $A^2 + 2AB + B^2 = (A + B)^2$ <li align="center"><i>or</i> $A^2 - 2AB + B^2 = (A - B)^2$ • Is the coefficient of the x^2 term 1? <ul style="list-style-type: none"> $x^2 + bx + c = (x + m)(x + n)$ <li align="center"><i>where $m \cdot n = c, m + n = b$</i> • Is the coefficient of the x^2 term different than a 1? <ul style="list-style-type: none"> ➤ Then use factoring by grouping. ➤ Or use the "Box" method. <p>C) <u>4 terms</u></p> <ul style="list-style-type: none"> • Use factoring by grouping & GCF 3 times. (Remember: sometimes we can "group" into groups other than pairs, such as perfect square trinomials.)
Step 4:	CHECK YOUR WORK!