Factoring by Grouping

If a polynomial contains four or more terms we may wish to group terms with common factors.

ex: \[ ax + ay + by + bx \]
    \[ ax + ay + by + bx \]
    \[ a(x+y) + b(y+x) \]
    \[ (a+b)(x+y) \]

To factor a 4-term polynomial by grouping

1. Look for a GCF common to all and factor.

2. Arrange so the 1st 2 have a common factor and the last 2 have a common factor.

3. Use the distribute property to factor each group of terms.

4. Factor out the GCF from step 3.