3. $z^3 - 4z^2 + z + 6$ has a factor $(z-(-1))$ compute all other factors:

$(z-3)^2 (z-1)$

$(z-4)(z-3)(z+2)$

$(z-3)(z-2)(z+1)$

$(z-4)(z-3)(z+4)$

Solution
Apply Long Division.
$(z-3)(z-2)(z+1)$