1. $c^3 + c^2 - 9c - 9$ has a factor $(c - (-3))$ compute all other factors:

$(c - 3)^3$

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

$(c - 3)(c + 1)(c + 3)$

$(c - 4)(c - 3)(c + 4)$

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