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

$(c + 1)\ (c + 3)\ (c + 4)$

$(c + 1)\ (c + 3)^2$

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

$(c - 2)\ (c - 1)\ (c + 3)$

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