1. $p^3 + 5p^2 + 7p + 3$ has a factor $(p-(-3))$ compute all other factors:

$(p + 1) (p + 4)^2$

$(p - 4) (p + 1) (p + 2)$

$(p + 1)^2 (p + 3)$

$(p + 1)^2 (p + 4)$

Solution
Apply Long Division.

$(p + 1)^2 (p + 3)$