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

$(k - 4)\, k\, (k + 1)$

$k\, (k + 1)\, (k + 2)$

$(k - 3)\, (k + 1)\, (k + 3)$

$k\, (k + 1)\, (k + 4)$

Solution
Apply Long Division.
$(k - 3)\, (k + 1)\, (k + 3)$