1. $h^3 + 3h^2 - 6h - 8$ has a factor $(h-(-4))$ compute all other factors:

$(h - 2) (h + 1)^2$

$(h - 2) h (h + 2)$

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

$(h - 2) h (h + 4)$

Solution
Apply Long Division.
$(h - 2) (h + 1) (h + 4)$