5. $h^3 + 2h^2 - 5h - 6$ has a factor $(h-(-3))$ compute all other factors:

$(h - 1)\, h\, (h + 1)$

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

$(h - 2)\, (h + 1)\, (h + 3)$

$(h - 3)\, (h + 1)^2$

Solution
Apply Long Division.

$(h - 2)\, (h + 1)\, (h + 3)$