2. $r^3 - 13r + 12$ has a factor $(r-(-4))$ compute all other factors:

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

$(r-3)(r+2)(r+4)$

$(r-3)(r-1)(r+4)$

$(r-2)^2(r+4)$

Solution
Apply Long Division.
$(r-3)(r-1)(r+4)$