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

$(b-3)\ b\ (b+2)$

$b\ (b+1)\ (b+2)$

$(b-1)\ (b+1)\ (b+2)$

$(b+2)^2\ (b+4)$

Solution

Apply Long Division.

$(b-1)\ (b+1)\ (b+2)$