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

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

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

$g(g + 2)(g + 4)$

$(g - 3)(g + 2)(g + 3)$

Solution
Apply Long Division.
$g(g + 2)(g + 4)$