1. $g^3 - g^2 - 10g - 8$ has a factor $(g - (-2))$ compute all other factors:

$(g - 4)\,(g - 1)\,(g + 2)$

$(g + 1)\,(g + 2)\,(g + 4)$

$(g - 4)\,(g + 1)\,(g + 2)$

$(g - 4)\,(g + 2)^2$

Solution
Apply Long Division.
$(g - 4)\,(g + 1)\,(g + 2)$