2. 
$$e^{3} + 2e^{2} - 11e - 12$$
 has a factor  $(e - (-4))$  compute all other factors: 
$$(e-2) (e-1) (e+4)$$
 
$$(e+4)^{3}$$
 
$$(e+4)^{3}$$
 
$$(e+1) (e+4)^{2}$$
 Solution Apply Long Division.

(e-3) (e+1) (e+4)