$$(u-4) (u-3) (u+3)$$
 $(u-4) (u+1) (u+4)$
 $(u-4) (u-3) (u+2)$
 $(u-4) (u-2) u$

Solution
Apply Long Division.
 $(u-4) (u-3) (u+2)$

1. $u^3 - 5u^2 - 2u + 24$ has a factor (u - (-2)) compute all other factors: