

4. $r^3 - 13r + 12$ has a factor $(r - (-4))$ compute all other factors:

$$(r - 1) (r + 1) (r + 4)$$

$$(r - 1)^2 (r + 3)$$

$$(r - 3) (r - 1) (r + 4)$$

$$(r - 1) r (r + 2)$$

Solution

Apply Long Division.

$$(r - 3) (r - 1) (r + 4)$$