

1.  $q^3 - q^2 - 6q$  has a factor  $(q - (-2))$  compute all other factors:

$$(q - 3)^2 (q + 2)$$

$$(q - 3) (q + 3)^2$$

$$(q - 3) q (q + 2)$$

$$(q - 3) (q + 3) (q + 4)$$

**Solution**

Apply Long Division.

$$(q - 3) q (q + 2)$$