

A binomial in the form  $a^3 - b^3$  can be factored as  $(a - b)(a^2 + ab + b^2)$ .

$x^3 - 216 = x^3 - 6^3$ , so  $a = x$  and  $b = 6$ .

This can be factored as

$$(x - 6)(x^2 + 6x + 6^2) = (x - 6)(x^2 + 6x + 36).$$