

$x^3 - 1,000 = x^3 - 10^3$, and a binomial in the form $a^3 - b^3$ can be factored as $(a - b)(a^2 + ab + b^2)$. In this problem, $b = 10$, but that is not the number that is missing. Whenever you factor, remember to check your answer by multiplying the factors back together.