

1. Factorise: $16x^3 - 250y^3$
2. Without actually calculating the cubes, evaluate $14^3 + 13^3 - 27^3$
3. If $p = \sqrt{2} - 1$, then find the value of $p - \frac{1}{p}$
4. Find the value of a for which $(x - a)$ is a factor of the polynomial $x^6 - ax^5 + x^4 - ax^3 + 3x - a + 2$.
5. Factorise: $3 - 12(a - b)^2$
6. If $x^2 + \frac{1}{x^2} = 7$, then find the value of $x^3 + \frac{1}{x^3}$
7. The polynomials $ax^3 + 3x^2 - 13$ and $2x^3 - 5x + a$ when divided by $(x - 2)$ leave the same remainder, find the value of a .
8. Simplify: $(2x + 3y)^3 + (2x - 3y)^3$
9. Factorise: $(a^2 - 2a)^2 - 23(a^2 - 2a) + 120$
10. Factorise: $64x^3 + \sqrt{125}y^3$