1. Factorise: $x^3 - 3x^2 - 9x - 5$
2. Factorise: $2\sqrt{2}a^3 + 16\sqrt{2}b^3 + c^3 - 12abc$
3. If both $(x - 2)$ and $(2x - 1)$ are factors of $px^2 + 5x + r$, show that $p = r$.
4. Factorise: $2x^3 - 3x^2 - 17x + 30$
5. Find the value of $k (k \neq 0)$ if $(x - 3)$ is a factor of $k^2x^3 - kx^2 + 3kx - k$.
6. Prove that:
   $(a + b)^3 + (b + c)^3 + (c + a)^3 - 3(a + b)(b + c)(c + a) = 2(a^3 + b^3 + c^3 - 3abc)$
7. For what value of k, $(x + 1)$, is a factor of $p(x) = kx^2 - x - 4$?
8. Without finding the cubes, factorise $(x - 2y)^3 + (2y - z)^3 + (z - x)^3$
9. Simplify: $\left(\frac{x}{3} + \frac{y}{5}\right)^3 - \left(\frac{x}{3} - \frac{y}{5}\right)^3$
10. Find the value of $27x^3 + 8y^3$, if $3x + 2y = 20$ and $xy = \frac{11}{9}$