01 Two candidates attempt to solve a quadratic equation of the form $x^2 + px + q = 0$. One starts with a wrong value of p and finds the roots to be 2 and 6. The other starts with a wrong value of q and finds the roots to be 2 and –9. Find the correct roots and the equation.

Your solution here:

02 The ratio of the roots of the equation $ax^2 + bx + c = 0$ is same as the ratio of the roots of the equation $px^2 + qx + r = 0$. If D_1 and D_2 are the discriminants of $ax^2 + bx + c = 0$ and $px^2 + qx + r = 0$ respectively, find the ratio of $D_1 : D_2$.

Your solution here:

03 If α, β are the roots of $ax^2 + bx + c = 0$ and $\alpha + k$, $\beta + k$ are the roots of $px^2 + qx + r = 0$, what is the value of k ?

Your solution here:

04 Solve $(x - 2)(x - 4)(x + 3)(x + 5) = 120$.

Your solution here:

05 Solve $3x^4 - 20x^3 - 94x^2 - 20x + 3 = 0$.

Your solution here: