Class 11 Mathematics Assignment

Question 1:
Find the distance between the lines
$2x + 3y + 6 = 0$ and $4x + 6y = 8$.

Question 2:
Find the coefficient of $x^8 y^{10}$ in the expansion of $(x + y)^{18}$.

Question 3:
If $A(1, 4)$, $B(2, -3)$, and $C(-1, -2)$ are the vertices of triangle ABC, find the equation of the median through the vertex B.

Question 4:
Simplify $(x + 1)^6 + (x - 1)^6$ and hence evaluate $(\sqrt{2} + 1)^6 + (\sqrt{2} - 1)^6$.

Question 5:
Find the image of the point $A(3, 8)$ with respect to the line $x + 3y = 7$.

Question 6:
Find the equations of the altitudes of the triangle whose vertices are
$A(7, -1)$, $B(-2, 8)$, and $C(1, 2)$.