$x = 9t^2 + 3$, $y = 6t^3 + 3$, $\frac{dx}{dt} = 18t$, $\frac{dy}{dt} = 18t^2$, so $\frac{dy}{dx} = \frac{18t^2}{18t} = t$ [even where $t = 0$].
So at the point corresponding to parameter value t, an equation of the tangent line is $y - (6t^3 + 3) = t[x - (9t^2 + 3)]$.
If this line is to pass through $(12, 9)$, we must have
$9 - (6t^3 + 3) = t[12 - (9t^2 + 3)] \Leftrightarrow 6t^3 - 6 = 9t^3 - 9t \Leftrightarrow 3t^3 - 9t + 6 = 0 \Leftrightarrow (t-1)^2(t+2) = 0 \Leftrightarrow t = 1$ or -2. Hence, the desired equations are $y - 9 = x - 12$, or $y = x - 3$, tangent to the curve at $(12, 9)$, and $y - (-45) = -2(x - 39)$, or $y = -2x + 33$, tangent to the curve at $(39, -45)$.