q

Problem statement Suppose $g(t) = Q(t^3, t^5)$. Suppose you also know that

$$Q(1,1) = A\,;\ Q_x(1,1) = B\,;\ Q_y = C\,;\ Q_{xx}(1,1) = D\,;\ Q_{xy}(1,1) = E\,;\ Q_{yy}(1,1) = F$$

where the subscripts indicate partial derivatives. Compute the quantities $g(1)$, $g'(1)$, and $g''(1)$ in terms of A, B, C, D, and E.