Question 1: (1 point)

\[ f(x) = 14x^{22} + 16x^6 + 23 - \frac{7}{x^9} \]

Find the derivative of

Question 2: (1 point)

Differentiate the function \( g(t) = t^6 e^t \).
Question 3: (1 point)

\[ g(x) = \frac{\sin(x)}{48 - 32x + 9x^2} \]

Find the derivative of \( g(x) \).

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Question 4: (1 point)

Find the derivative of \( w(z) = \cos\left(14 + 5z + 10z^2\right) \).
Question 5: (1 point)

\[ h(w) = -11 \frac{17}{w^{11}} - \frac{7}{12} w^{11}. \]

Find the derivative of \( h(w) \).

Question 6: (1 point)

Find the derivative of \( p(x) = x^3 e^{(19 + 3x)} \).
Question 7: (1 point)

Differentiate \( f(x) = (\ln (7y))^7 \).

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Question 8: (1 point)

Find the derivative of \( G(z) = (14 + 16z + e^z)^{75} \).
Question 9: (1 point)

Find the derivative of $W(z) = 4\sqrt[4]{(12 + 9z + 6z^2 + 7z^3)}$.

Question 10: (1 point)

Find the derivative of $f(x) = \frac{3 + 23x + 15x^2}{\sqrt{\cos(x)}}$. 
Question 11: (1 point)

Find the antiderivative \( \int (3 + 13x + 7x^2 + 12x^3 + 19x^4) \, dx \).

Question 12: (1 point)

Find the antiderivative \( \int -11e^z \, dz \).