Q.No.1: Let \( h(x) = 2g(x) + f\left(\sqrt{g(x)}\right) \) and \( h'(-1) = 7, f'(3) = 18, g(-1) = 9 \), the find the value of \( g'(-1) \).

Final Answer (2 point): ________

Work Shown (4 points):
Q.No.2:- Find all the points on the graph of the function \( f(x) = \cos^3 x - 3 \sin^3 x \), \( 0 \leq x \leq 2\pi \) at which the tangent line is horizontal.

Final Answer (2 point): 

Work Shown (4 points):
Q.No.3: Find \( \lim_{{x \to 0}} \frac{3 \tan(2x) - 5 \tan(3x)}{7x \cos x + 4 \sin 5x} \).

Final Answer (2 point): 

Work Shown (5 points):
Q.No.4:- Let \( f(x) = \begin{cases} x^2, & x \leq -1 \\ mx + b, & x > -1 \end{cases} \). If the constants \( m \) and \( b \) make the function \( f \) differentiable everywhere, then find the values of \( m \) and \( b \).

Final Answer (2 point): 

Work Shown (4 points):

With Best Wishes