Practice Exercise For Lecture 23

Q1.   Find the minimum value of the function $f(x) = x^3 - 27x + 4$ attains in the interval [4,-4].

   Answer. $f(-3) = -50$

Q2.   Find the maximum value of the function $f(x) = x^3 + 3x^2 - 9x$ attains in the interval [-4, 3].

   Answer. $f(-3) = f(3) = 27$

Q3.   Find the absolute maximum and absolute minimum values of the function $f(x) = 4 - x^2$ on interval $-3 \le x \le 1$.

   Answer.   abs. max. =4 and abs. min. =3

Q4.   Find the absolute maximum and absolute minimum values of the function $f(x) = 2 + x$ on interval $-2 \le x \le 2$.

   Answer.   abs. max. =4 and abs. min. =0

Q5.   Find the maximum and minimum value of the function $f(x) = 4x^3 + 12x^2 + 1$ on the interval $(-\infty, +\infty)$.

   Answer.   minimum value = $f(0) = 1$