

ENGR 222

Assignment 2 Submission

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1. Multivariate Function

$$f(x, y) = -2x^3 + 3x^2y + 2y^3 - 9y + 5$$

(a)
$$\frac{\delta}{\delta x} = -6x^2 + 6xy$$
$$\frac{\delta}{\delta y} = 3x^2 + 6y^2 - 9$$

(b)
$$\frac{\delta}{\delta x \delta y} = 6x$$
$$\frac{\delta}{\delta x^2} = -12x + 6y$$
$$\frac{\delta}{\delta y^2} = 12y$$

(c)

(d)

2. Quick questions

(a)

(b)

(c)

(d)

(e)

3. Double integrals

(a)

(b)

(c)

(d)

(e)

4. Lab question

- (a) i.
ii.

iii.

(b) i.

ii.

iii.