>

実習16.2

(1)

> $f := (x, y) \to x^3 + 3 \cdot x^2 - y^2$

$$f := (x, y) \mapsto x^3 + 3\,x^2 - y^2 \tag{1}$$

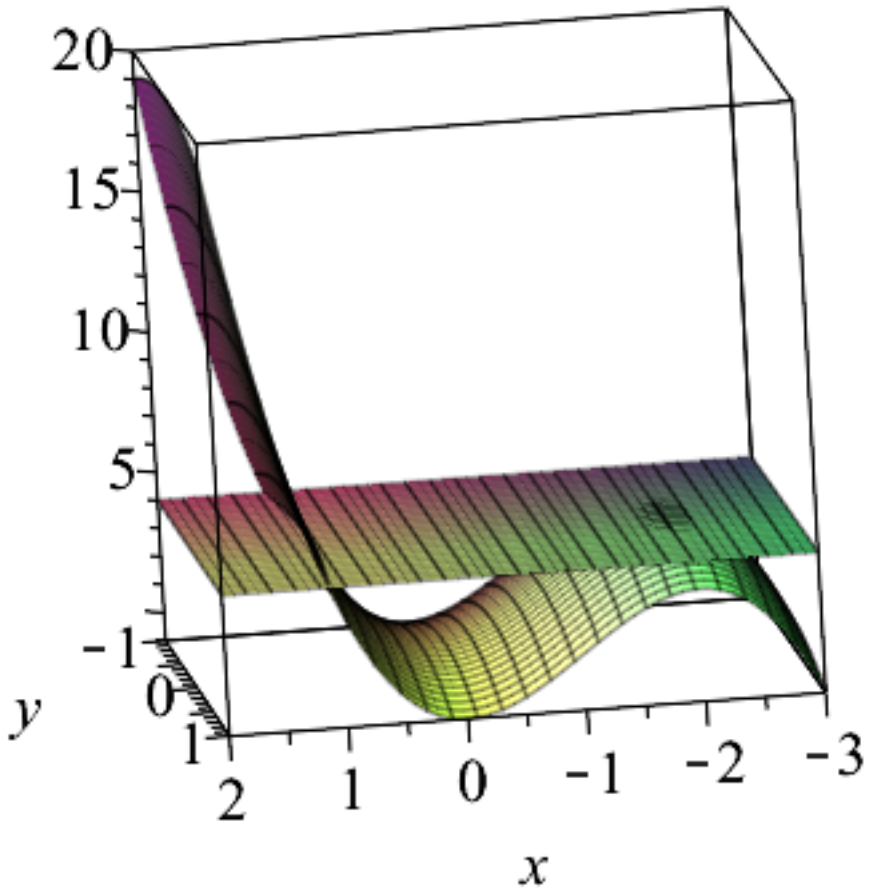
> $diff(f(x, y), x)$

$$3\,x^2 + 6\,x \tag{2}$$

> $diff(f(x, y), y)$

$$-2\,y \tag{3}$$

> $plot3d([f(x, y), subs(x = -2, y = 0, \%\%) \cdot (x - (-2)) + subs(x = -2, y = 0, \%) \cdot (y - 0) + f(-2, 0)], x = -3 .. 2, y = -1 .. 1)$



>

(2)

> $plot3d([f(x, y), subs(x = 1, y = 1, diff(f(x, y), x)) \cdot (x - 1) + subs(x = 1, y = 1, diff(f(x, y), y)) \cdot (y - 1) + f(1, 1)], x = 0 .. 2, y = 0 .. 2)$

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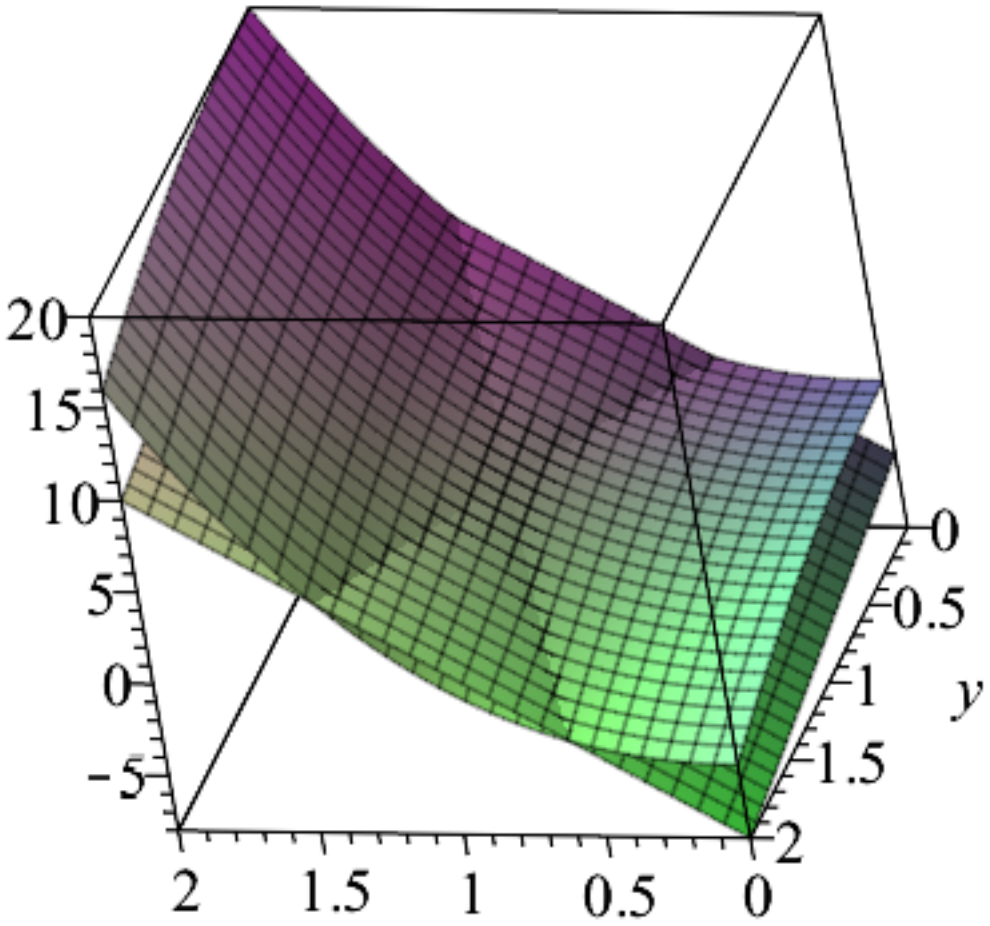
20
15
10
5
0
-5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
y