

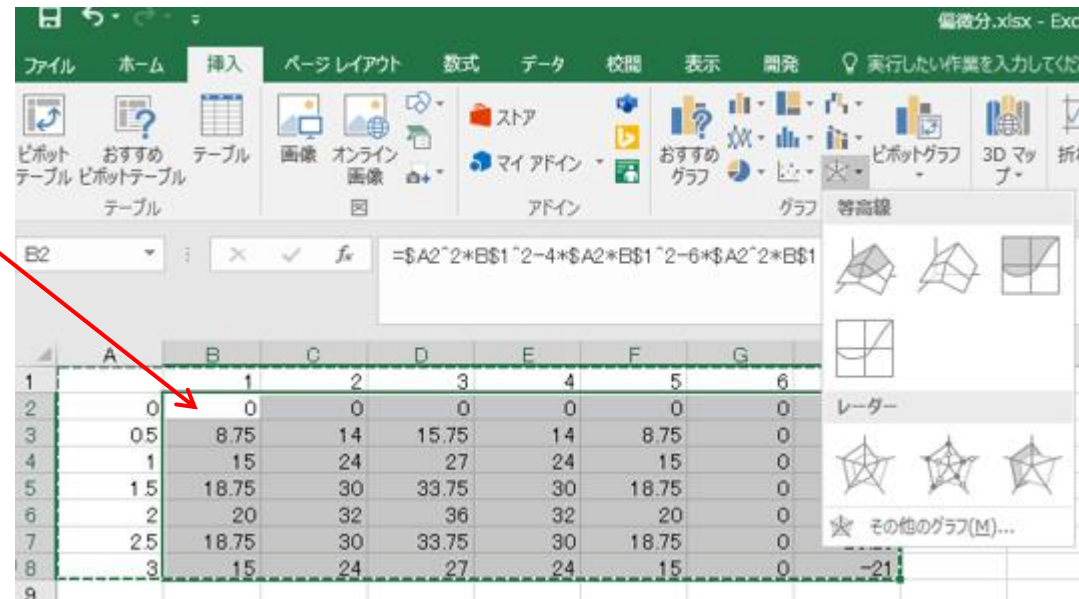
偏微分

$$z = x^2y^2 - 4xy^2 - 6x^2y + 24xy$$

y

x

	1	2	3	4	5	6	7
0	0	0	0	0	0	0	0
0.5	8.75	14	15.75	14	8.75	0	-12.25
1	15	24	27	24	15	0	-21
1.5	18.75	30	33.75	30	18.75	0	-26.25
2	20	32	36	32	20	0	-28
2.5	18.75	30	33.75	30	18.75	0	-26.25
3	15	24	27	24	15	0	-21



偏微分 $\frac{\partial z}{\partial x} = 2xy^2 - 4y^2 - 12xy + 24y$
 $= 2y(y - 6)(x - 2) = 0$

$x = 2$ のとき常に $\frac{\partial z}{\partial x} = 0$

$\frac{\partial z}{\partial y} = 2x^2y - 8xy - 6x^2 + 24x$
 $= 2x(x - 4)(y - 3) = 0$

$y = 3$ のとき常に $\frac{\partial z}{\partial y} = 0$

z 最大値

$(2, 3, 36)$

