$Y = d * e$ ³

$Y = (a+b) * (b-c)$

$Y = -(a+b)$

$-(a+2)$

3 $d = a + b$

$e = b - c$ ⁻¹

(a) 1 (b) 2 (c) 3

c

$\frac{\partial Y}{\partial a} = \frac{\partial Y}{\partial d} \cdot \frac{\partial d}{\partial a} =$

$\nabla Y = \begin{bmatrix} \frac{\partial Y}{\partial d} & \frac{\partial Y}{\partial e} \end{bmatrix}$

$\nabla Y = \begin{bmatrix} \nabla Y(d) \\ \nabla Y(e) \end{bmatrix} = \begin{bmatrix} \frac{\partial d}{\partial a}$

$= \begin{bmatrix} \frac{\partial d}{\partial a} & \frac{\partial d}{\partial b} \\ \frac{\partial e}{\partial} \end{bmatrix}$

$\frac{\partial Y}{\partial a} = \frac{\partial d}{\partial a} * \frac{\partial Y}{\partial d} = 1 * e = (-1)$

$\frac{\partial Y}{\partial b} = \frac{\partial Y}{\partial} e + \frac{\partial Y}{\partial} d = \frac{\partial Y}{\partial d} \frac{\partial d}{\partial b} e + \frac{\partial Y}{\partial e} \frac{\partial e}{\partial b} d = e * 1 + d * 1$

2

$\frac{\partial Y}{\partial c} = \frac{\partial Y}{\partial e} * \frac{\partial e}{\partial c} = d * -1 = -3$

$\nabla Y = \frac{\nabla d}{\partial e}$ [ ]

$\lim_{h \to 0} \frac{-(d+h+3) - 3}{h} = \lim_{h \to 0} \frac{-h-6}{h} = \frac{-1}{1} = -1$