$$y = a \ln(b) + b c^2$$

a) $\frac{\partial y}{\partial a} = \ln(b) \xrightarrow{b = 10} 2{,}30$

$\frac{\partial y}{\partial b} = \frac{a}{b} + c^2 \xrightarrow{a=2,\ b=10,\ c=0{,}5} 0{,}45$

$\frac{\partial y}{\partial c} = 2bc \xrightarrow{b=10,\ c=0{,}5} 10$

b) $\frac{\partial y}{\partial a} = \frac{(a+h)\ln(b) + bc^2 - a\ln(b) - bc^2}{h} = \frac{\ln(b)(a+h-a)}{h} = 2{,}30$

$\frac{\partial y}{\partial b} = \frac{a\ln(b+h) + (b+h)c^2 - a\ln(b) - bc^2}{h} = \frac{a\left[\ln(b+h) - \ln(b)\right] + c^2(b+h-b)}{h}$

$= \frac{a}{h}\ln\left(\frac{b+h}{b}\right) + c^2 \xrightarrow{h=0{,}001} 0{,}4499$

$\frac{\partial y}{\partial c} = \frac{a\ln(b) + b(c+h)^2 - a\ln(b) - bc^2}{h} = \frac{b}{h}\left[(c+h)^2 - c^2\right]$

$= \frac{b}{h}(c^2 + 2ch + h^2 - c^2) = b(2c+h) \xrightarrow{h=0{,}001} 10{,}01$