

1. Find the domain of $f(x, y) = xye^{xy}$. Find $f(\ln 2, 1)$.

Domain:
All (x, y)

$$f(\ln 2, 1) = (\ln 2)(1)e^{(\ln 2)(1)}$$

$$= (\ln 2)e^{\ln 2}$$

$$= \boxed{2 \ln 2}$$

2. Find the domain of $f(x, y) = \ln(y - x^2)$. Find $f(0, 1)$.

Domain:
 Need $y - x^2 > 0$
 $y > x^2$

All (x, y) for which $y > x^2$

$$f(0, 1) = \ln(1 - (0)^2)$$

$$= \ln 1$$

$$= \boxed{0}$$

Q: A man while looking at a photograph said, "Brothers and sisters have I none. That man's father is my father's son." Who was the person in the photograph?