

- (a) $f(3, -1, 11) = e^{\sqrt{11-3^2-(-1)^2}} = e^{\sqrt{1}} = e$.
- (b) $e^{\sqrt{z-x^2-y^2}}$ is defined when $z - x^2 - y^2 \geq 0 \Rightarrow z \geq x^2 + y^2$. Thus the domain of f is $\{(x, y, z) \mid z \geq x^2 + y^2\}$.
- (c) Since $\sqrt{z-x^2-y^2} \geq 0$, we have $e^{\sqrt{z-x^2-y^2}} \geq 1$. Thus the range of f is $[1, \infty)$.