1. (a) To get the natural domain of this function we must first break it into three functions: $f(x) = \sqrt{1-x}$, $g(x) = \sqrt{x}$, and $h(x) = 25 - x^2$ where $f \circ g \circ h$ is the full function. To get the natural domain we must determine what . With square root functions, the input must be ≥ 0 to remain in $\mathbb{R}$. For $f(x)$ this is the case when $x \leq 1$. So the codomain of $g(x)$ must be a subset of $[1, -\infty)$. Since $g(x)$ cannot output a negative number, the codomain now becomes $[1, 0]$. This means that the domain for $g(x)$ must be $[1, 0]$. Finally, since the codomain for $h(x)$ is $[1, 0]$ we can determine that the only inputs that result in that output are between $[2\sqrt{6}, 5]$ and $[-5, -2\sqrt{6}]$. So the natural domain of this function is:

$$[-5, -2\sqrt{6}] \cup [2\sqrt{6}, 5]$$