## Answer on Question \# 41274- Math - Functional Analysis

## Question:

Find range of function $\cos (\sin x)$

## Solution:

Range of $\mathrm{y}(\mathrm{x})=\sin (\mathrm{x})$ is $\{y \in R:-1 \leq y \leq 1\}$. So, to find range of $\mathrm{z}(\mathrm{x})=\cos (\sin \mathrm{x})$, we should find a range of $z(y)=\cos (y)$ with domain $\{y \in R:-1 \leq y \leq 1\}$. And it is easily seen that the range of this function is $\{\mathrm{z} \in R: \cos (1) \leq \mathrm{z} \leq 1\}$

Answer: $\{\mathrm{z} \in \mathrm{R}: \cos (1) \leq \mathrm{z} \leq 1\}$

