3D The Normal Normal Distribution (Z Distribution)

1. The random variable $X \sim N(50, 4^2)$. Write in terms of $\Phi(z)$ for some value z:

a) $P(X < 53)$

b) $P(X \geq 55)$

2. The systolic blood pressure (pressure when the heart beats) of an adult population, $S\ mmHg$, is modelled as a normal distribution with mean 127 and standard deviation 16.

A medical researcher wants to study adults with blood pressures higher than the 95th percentile. Find the minimum blood pressure needed for an adult to be included in her survey