1. Integrate.

(a) \[ 2 \int \frac{\sin(\sqrt{t})}{\sqrt{t}} \, dt \]

(b) \[ 3 \int_0^2 \frac{x}{x^2 + 4} \, dx \]

(c) \[ 2 \int \frac{1}{x^2 + 4} \, dx \]

2. Find the area bounded by \( y = x^2 \) and \( y = 2 - x \).