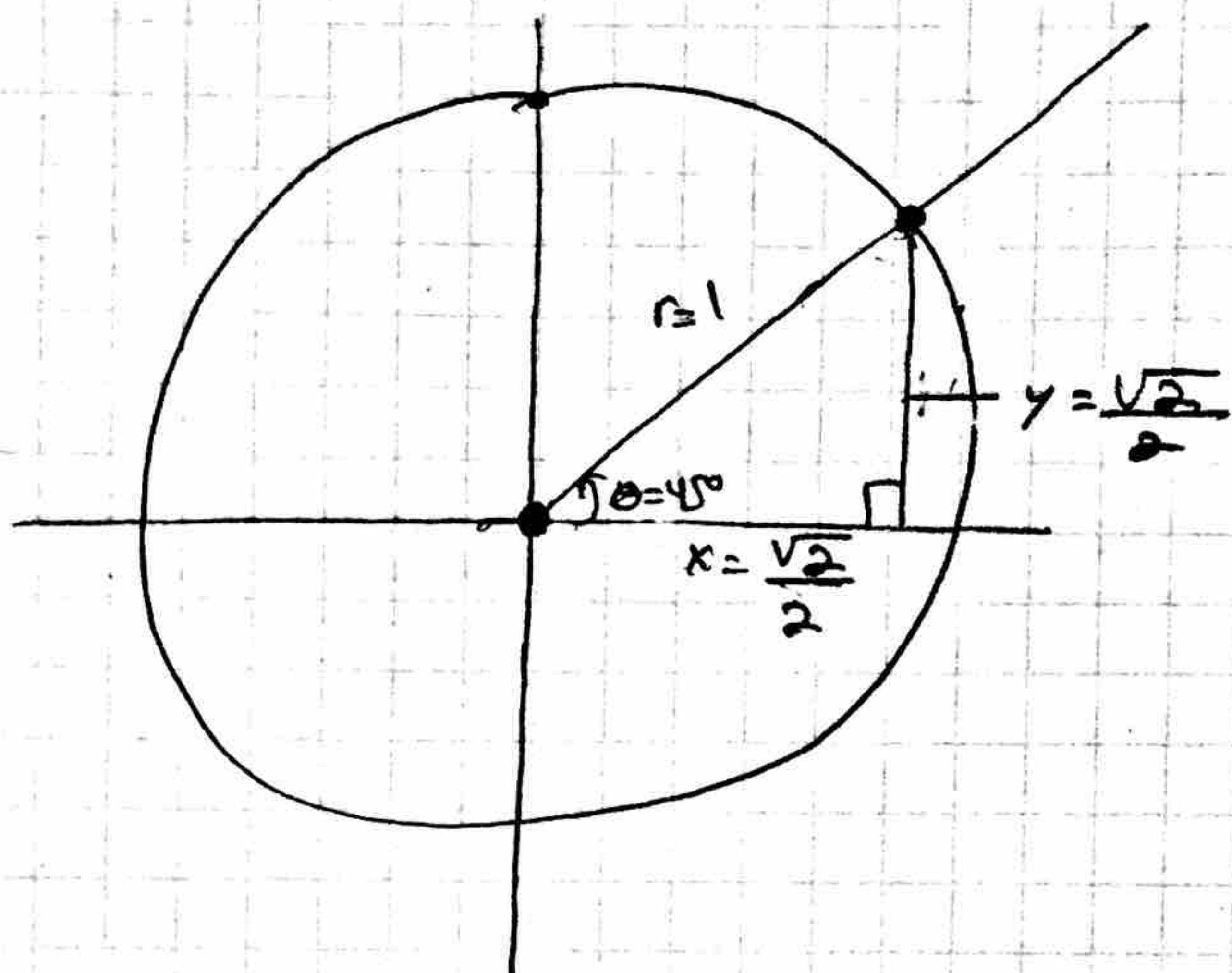


$$\Theta = 45^\circ$$



$$\cosine 45^\circ = \frac{x}{1}$$

↓

$$\frac{1}{x} (\cosine 45^\circ) = \frac{x}{x} \left(\frac{1}{x} \right) \text{ (multiply } x \text{ both sides)}$$

↓

$$\frac{1}{x} (\cosine 45^\circ) = 1$$

↓

$$\frac{\cosine 45^\circ}{x} = 1$$

↓

$$\frac{x (\cosine 45^\circ)}{x} = 1 (x) \text{ (multiply } x \text{ again)}$$

↓

$$\cosine 45^\circ = x$$

↓

$$.707107 \approx x \text{ or } \frac{\sqrt{2}}{2}$$

$$\sin 45^\circ = \frac{y}{1}$$

↓

$$\frac{1}{y} (\sin 45^\circ) = \frac{y}{y} \left(\frac{1}{y} \right)$$

↓

$$\frac{1}{y} (\sin 45^\circ) = 1$$

↓

$$\sin 45^\circ = 1$$

↓

$$\frac{y (\sin 45^\circ)}{y} = 1 (y)$$

↓

$$\sin 45^\circ = y$$

↓

$$.707107 \approx y \text{ or } \frac{\sqrt{2}}{2}$$