

**Problem statement** Which has more area, the region in the first quadrant enclosed by the line  $x + y = 1$  and the circle  $x^2 + y^2 = 1$ , or the region in the first quadrant enclosed by the line  $x + y = 1$  and the curve  $\sqrt{x} + \sqrt{y} = 1$ ? Justify your answer. Include a sketch of the regions discussed.