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A curve is defined by the parametric equations

$$x = \cos \theta \quad \text{and} \quad y = \sin \theta \quad \text{where } 0 \leq \theta \leq 2\pi$$

Which of the options shown below is a Cartesian equation for this curve?

Circle your answer.

**[1 mark]**

$$\frac{y}{x} = \tan \theta$$

$$x^2 + y^2 = 1$$

$$x^2 - y^2 = 1$$

$$x^2 y^2 = 1$$