

2) Find a Cartesian equation for  $r = 2 \cos \theta$ .

$$\begin{aligned}x &= r \cos \theta \longrightarrow \frac{x}{r} = \cos \theta \\y &= r \sin \theta \\r^2 &= x^2 + y^2\end{aligned}$$

$$r = 2 \cos \theta$$

$$r = 2 \frac{x}{r}$$

$$r^2 = 2x$$

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