

$$8. \quad r = \frac{2}{1 + \sin \theta}$$

$$r(1 + \sin \theta) = (1 + \sin \theta) \left(\frac{2}{1 + \sin \theta} \right)$$

$$r + r \sin \theta = 2$$

$$\sqrt{x^2 + y^2} + y = 2$$

$$\sqrt{x^2 + y^2} = 2 - y$$

$$(\sqrt{x^2 + y^2})^2 = (2 - y)^2$$

$$x^2 + y^2 = (2 - y)(2 - y)$$

$$\underline{x^2} + y^2 = 4 - 2y - 2y + \underline{y^2}$$

$$x^2 = 4 - 4y$$

$$x^2 = -4y + 4$$

$$(x - 0)^2 = -4(y - 1)$$

$$(x - 0)^2 = 4(-1)(y - 1)$$

⋮

$$r = \sqrt{x^2 + y^2}$$

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

$$x = r \cos \theta$$

$$y = r \sin \theta$$

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