

VARIOUS FORMS OF EQUATIONS OF TANGENTS IN CIRCLE

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

Point

Equation of
Tangent

Point Form

$$(x_1, y_1)$$

$$xx_1 + yy_1 = a^2$$

Slope Form

$$\left(\pm \frac{ma}{\sqrt{1+m^2}}, \pm \frac{a}{\sqrt{1+m^2}} \right)$$

$$y = mx \pm a\sqrt{1+m^2}$$

Parametric Form

$$(a \cos \theta, a \sin \theta)$$

$$x \cos \theta + y \sin \theta = a$$