

Fill in the Blanks

Equation of a Tangent to a Circle

Equation of Circle	Point on Circle	Gradient of Radius	Gradient of Tangent	Equation of Tangent
$x^2 + y^2 = 45$	$(3, 6)$	2	$-\frac{1}{2}$	$y = -\frac{1}{2}x + \frac{15}{2}$
$x^2 + y^2 = 10$	$(3, -1)$	$m = -\frac{1}{3}$	$m = 3$	$y = 3x - 10$
$x^2 + y^2 = 68$	$(-2, -8)$	$m = 4$	$m = -\frac{1}{4}$	$y = -\frac{1}{4}x - \frac{17}{2}$
$x^2 + y^2 = 25$	$(-4, 3)$	$m = -\frac{3}{4}$	$m = \frac{4}{3}$	$y = \frac{4}{3}x + \frac{25}{3}$
$x^2 + y^2 = 73$	$(8, 3)$	$m = \frac{3}{8}$	$m = -\frac{8}{3}$	$y = -\frac{8}{3}x + \frac{73}{3}$
$x^2 + y^2 = \frac{53}{2}$	$(\frac{5}{2}, -\frac{9}{2})$	$m = -\frac{9}{5}$	$m = \frac{5}{9}$	$y = \frac{5}{9}x - \frac{53}{9}$
$x^2 + y^2 = 6$	$(-2, \sqrt{2})$	$m = -\frac{\sqrt{2}}{2}$	$m = \sqrt{2}$	$y = \sqrt{2}x + 3\sqrt{2}$
$x^2 + y^2 = 100$	$(6, -8)$	$m = -\frac{4}{3}$	$m = \frac{3}{4}$	$y = \frac{3}{4}x - \frac{25}{2}$