

# Fill in the Blanks

# Maximum and Minimum Points

Equation of Curve	$\frac{dy}{dx}$	$\frac{dy}{dx} = 0$	x-coordinate	y-coordinate	Maximum or Minimum Point
$y = x^2 - 10x + 2$	$\frac{dy}{dx} = 2x - 10$	$2x - 10 = 0$	$x = 5$	$y = -23$	<i>Minimum</i>
$y = 3x^2 + 12x + 20$	$\frac{dy}{dx} = 6x + 12$	$6x + 12 = 0$	$x = -2$	$y = 8$	<i>Minimum</i>
$y = 15 - 2x - x^2$	$\frac{dy}{dx} = -2 - 2x$	$-2 - 2x = 0$	$x = -1$	$y = 16$	<i>Maximum</i>
$y = 3 + 8x - 2x^2$	$\frac{dy}{dx} = 8 - 4x$	$8 - 4x = 0$	$x = 2$	$y = 11$	<i>Maximum</i>
$y = x^2 + 12x + \boxed{30}$	$\frac{dy}{dx} = 2x + 12$	$2x + 12 = 0$	$x = -6$	$y = -6$	<i>Minimum</i>
$y = x^2 - 9x + \boxed{15}$	$\frac{dy}{dx} = 2x - 9$	$2x - 9 = 0$	$x = \frac{9}{2}$	$y = -\frac{21}{4}$	<i>Minimum</i>
$y = x^2 - \boxed{8}x + 15$	$\frac{dy}{dx} = 2x - 8$	$2x - 8 = 0$	$x = 4$	$y = -1$	<i>Minimum</i>
$y = \boxed{6} + \boxed{4}x - x^2$	$\frac{dy}{dx} = 4 - 2x$	$4 - 2x = 0$	$x = 2$	$y = 10$	<i>Maximum</i>