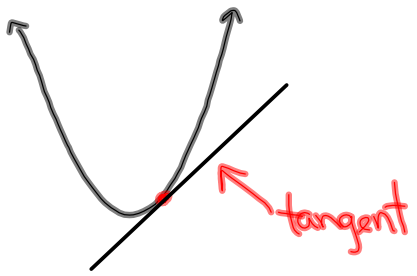
Tangent Lines:



① AROC = Slope of the secant line

$$= \frac{y_2 - y_1}{x_2 - x_1}$$

② IROC = Slope of the Tangent Line

$$= \frac{y_2 - y_1}{x_2 - x_1}$$

Homework

② Find the IROC for the given point

A. $y = 2x^2 + 3$ at $x = 4$ $x = 3.9$ to $x = 4.1$

① $y = 2(3.9)^2 + 3$

$y = 33.42$

$(3.9, 33.42)$

(x_1, y_1)

② $y = 2(4.1)^2 + 3$

$y = 36.62$

$(4.1, 36.62)$

(x_2, y_2)

③ $IROC = \frac{36.62 - 33.4}{4.1 - 3.9}$

$= \frac{3.2}{0.2}$

$= \boxed{16}$