

$$Y = 4X - X^2 \xrightarrow{D}$$

$$Y' = 4 - 2X ;$$

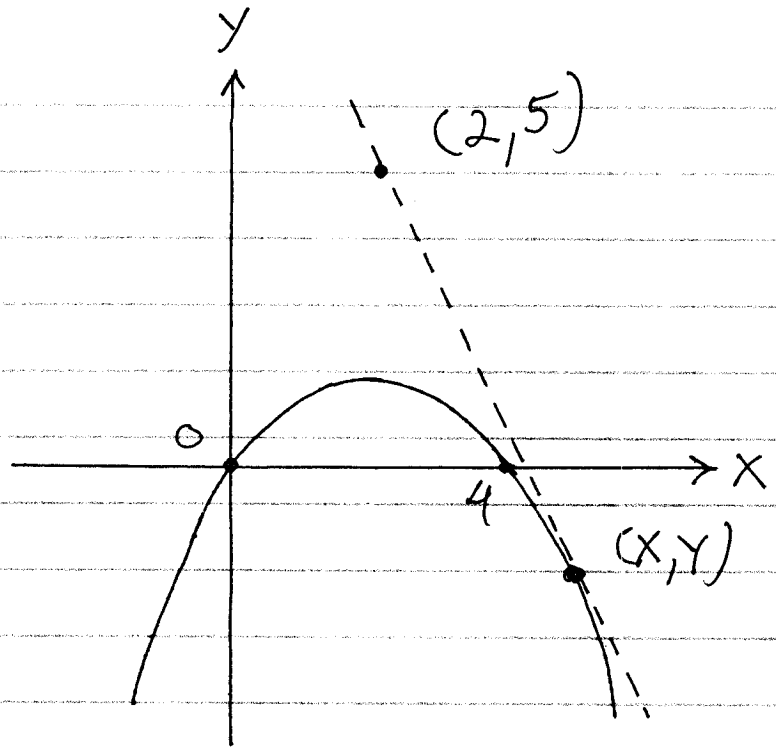
the SLOPE of
the tangent
line at X is

1.) $m = Y' = 4 - 2X$

and

2.) $m = \frac{\text{rise}}{\text{run}}$

$$= \frac{Y - 5}{X - 2} = \frac{(4X - X^2) - 5}{X - 2} ;$$



SET 1.) and 2.) EQUAL \rightarrow

$$\frac{4X - X^2 - 5}{X - 2} = 4 - 2X \rightarrow$$

$$4X - X^2 - 5 = (4 - 2X)(X - 2) \rightarrow$$

$$4X - X^2 - 5 = 4X - 8 - 2X^2 + 4X \rightarrow$$

$$X^2 - 4X + 3 = 0 \rightarrow$$

$$(X - 3)(X - 1) = 0 \rightarrow$$

$$X = 1, Y = 3 \quad \text{OR}$$

$$X = 3, Y = 3$$