

$$y - y(x_1) = f'(x_1)(x - x_1)$$

Choose x_1

Find $f(x_1)$

Find $f'(x_1)$ Find intersection of tangent line & x-axis.

Let $y=0$,

Solve for x

$$-\frac{f(x_1)}{f'(x_1)} = \frac{f'(x_1)(x - x_1)}{f'(x_1)}$$

$$x - x_1 = \frac{-f(x_1)}{f'(x_1)}$$

Let $x_2 = x = x_1 - \frac{f(x_1)}{f'(x_1)}$
 $x_2 = \frac{f(x_1)}{f'(x_1)}$

