

4. Critical Numbers $f'(x) = 0$ or $f'(x)$ undefined.

Solve $f'(x) = \frac{1-x}{(1+x)^3} = 0$ has solutions when
numerator $= 0$ and
denominator $\neq 0$

$\Rightarrow$ Solve $1-x = 0$

$x_c = 1$ is a CN

$f'(x)$ is undefined where the denominator $= 0$

$\Rightarrow$ Solve $(1+x)^3 = 0$

$x_c = -1$ is a critical number.

Critical numbers are where the slope can
change sign (i.e. increasing to decreasing etc)

Here $x_c = 1$ is the only CN where
 $f(x)$ is defined. So this is the only CN
that corresponds to a CP on the graph.

5. Find all CP's (only one):

$$CP (x_c, f(x_c)) = (1, f(1))$$

$$f(1) = \frac{1}{(1+1)^2} = \frac{1}{4}$$

$CP: (1, \frac{1}{4})$

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