8. $f(x) = \dfrac{x-7}{x+2}$ $\quad P \quad P' = 1$, $\quad Q \quad Q' = 1$

1

$$\frac{P'Q - PQ'}{Q^2}$$

$x+2=0$
$x=-2$

$$f'(x) = \frac{1(x+2) - (x-7)(1)}{(x+2)^2}$$

$$= \frac{x+2-x+7}{(x+2)^2}$$

$$f'(x) = \frac{9}{(x+2)^2}$$

2

$\cancel{9=0}$

$(x+2)^2 = 0$
$x+2=0$
$x=-2$

3

$-\infty$ $\quad x=-2 \quad$ ∞

TEST CASES	$x=-3$	$x=0$
PLUG IN DERIV.	$\dfrac{9}{(x+2)^2}$	$\dfrac{9}{(x+2)^2}$
	$\dfrac{+}{+}$	$\dfrac{+}{+}$
	/	/

INC $(-\infty, -2)$
INC $(-2, \infty)$