

PAGE 102 EXAMPLE 6c

On what intervals is each function continuous?

$$h(x) = \sqrt{x} + \frac{x+1}{x-1} - \frac{x+1}{x^2+1}$$

$F(x) = \sqrt{x} \rightarrow F$ is a root function so it is
cont on its domain which is $[0, \infty)$

$G(x) = \frac{x+1}{x-1} \rightarrow G$ is a rational function so it
is cont on its domain which is
 \mathbb{R} except $x=1$

$H(x) = \frac{x+1}{x^2+1} \rightarrow H$ is a rational function so it is
cont on its domain which is \mathbb{R}

Since $h(x) = F(x) + G(x) - H(x)$

h is cont on $[0, 1) \cup (1, \infty)$