121 § 1.1 #71

$f(x) = \frac{x-1}{x+2}$, $g(x) = \frac{2x-1}{x-1}$

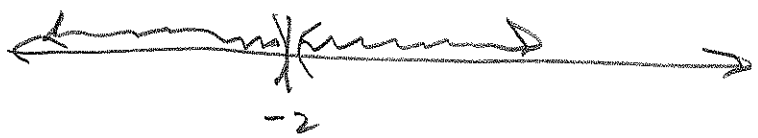
$\mathcal{D}$ = Domain.

Here, we're concerned with $\mathcal{D}(f+g)$ and it's the intersection of $\mathcal{D}(f)$ with $\mathcal{D}(g)$:

$\mathcal{D}(f) = \{x \mid x \neq -2\}$
$\mathcal{D}(g) = \{x \mid x \neq 1\}$

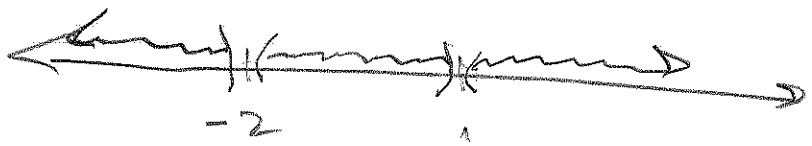
} Both cases, we can't let the denominator be zero!

$\mathcal{D}(f) = (-\infty, -2) \cup (-2, \infty)$

$=$ 

$\mathcal{D}(g) = (-\infty, 1) \cup (1, \infty)$

$=$ 

$\mathcal{D}(f) \cap \mathcal{D}(g) =$ 

$= (-\infty, -2) \cup (-2, 1) \cup (1, \infty)$

$= \{x \mid x \neq -2 \text{ and } x \neq 1\}$

Hope this helps on the domain part.
You may need Chapter P for intersections.