

$$\begin{aligned} \text{DOMAIN: } D(f+g) &= D(f-g) = D(fg) \\ &= \{x \mid x \in D(f) \text{ and } x \in D(g)\} \\ &= \{x \mid x \geq 7 \text{ and } x \neq 20\} \end{aligned}$$

$$D\left(\frac{f}{g}\right) = \{x \mid x \in D(f) \text{ and } x \in D(g) \text{ and } \underline{g(x) \neq 0}\}$$

So one new restriction. 

$\frac{1}{x-20} \neq 0$. Here, $= 0$ doesn't happen,

b/c $\frac{1}{x-20} = 0 \Rightarrow 1 = 0$ Never!

So $D\left(\frac{f}{g}\right) = [7, 20) \cup (20, \infty)$, also,

But you always need to check if $g(x) = 0$ happens & where, if it does.

NEXT TIME
Domain of Quotient &
COMPOSITION
functions

Here :

<http://harryzaims.com/121-all/videos/02-Test-Prep-Videos/02-Test-2/>

and under this:

<http://harryzaims.com/121-all/videos/02-Test-Prep-Videos/02-Test-2/02-Advanced-Domain-of-Quotient-and-Composition/>

click here