

**Source:** [KBe2020math401index](#)

Response to homework: 20math401retHW1\_2.pdf

[KBe20math401srcDeltaEpsilonReview1](#).png  $|x-2||x+4| < \epsilon$  so near  $x = 2$ ,  $|x-2|$  is smol, so the primary term contributing to the value of the total function is  $|x+4|$ . Using the above condition,  $|x-2| < 1 \Rightarrow 1 < x < 3 \Rightarrow 5 < x+4 < 7$

So,  $|x+4|$  is at most 7, we could try substituting it in and getting  $7|x-2| < \epsilon$ . Also do the other side:  $5|x-2| < \epsilon$

You also need to do this: [KBe20math401srcDeltaEpsilonProof2](#).png for the actual proof.

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