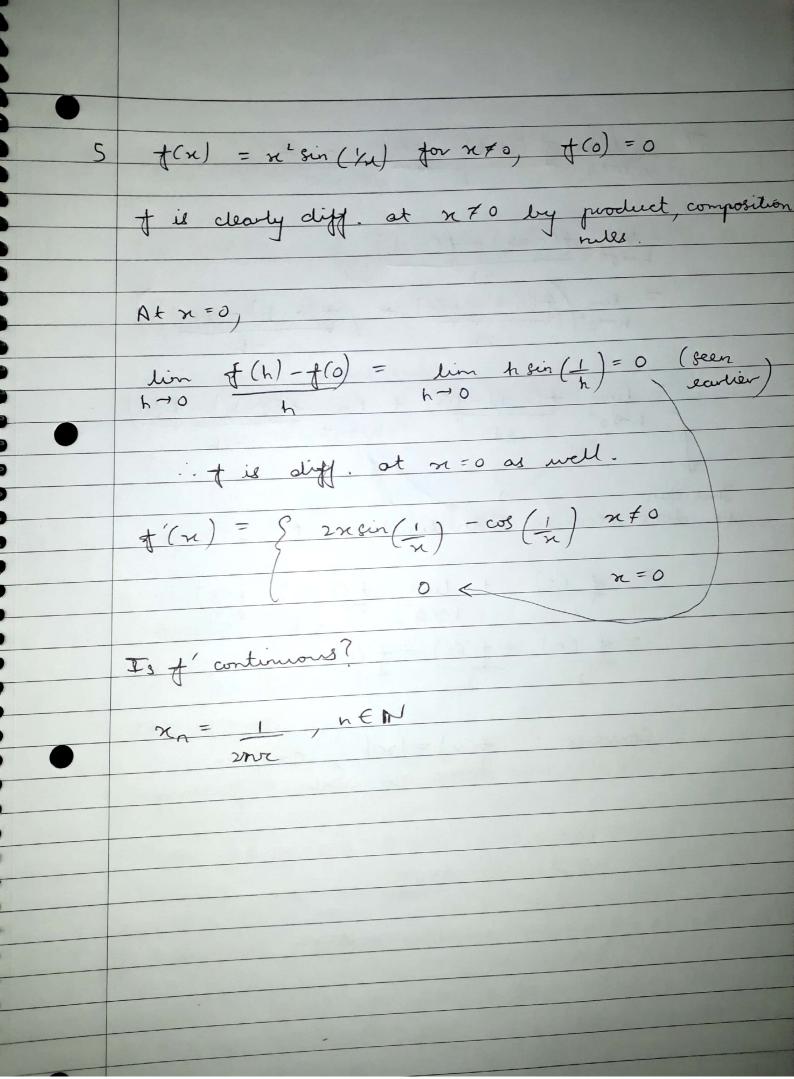
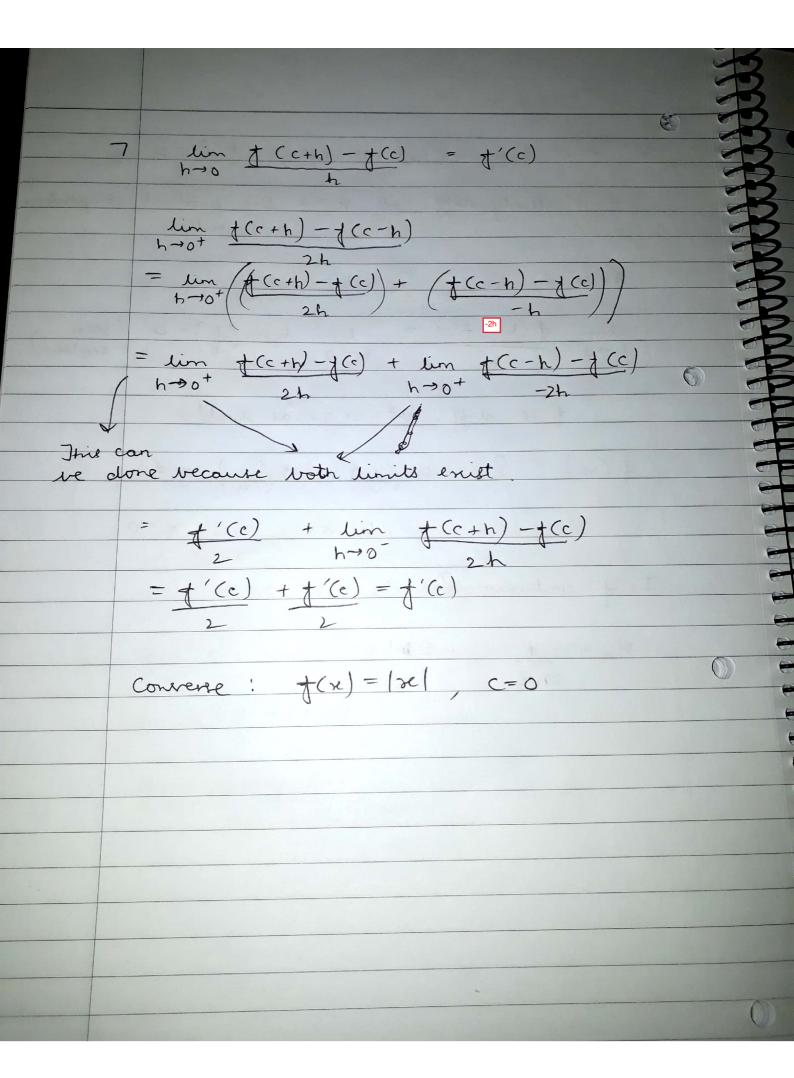
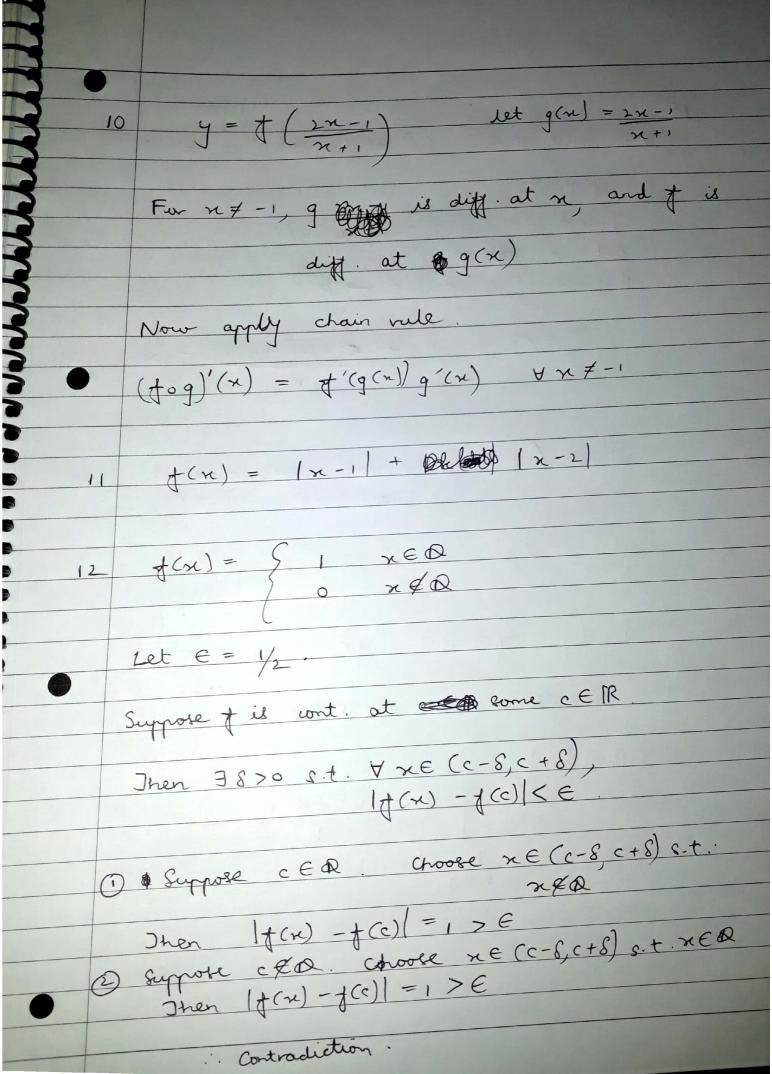


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4 \$ is cont. at and 0 = lin f(x) = f(0) Given €>0, ∃8>0 s.t. H(x)-f(0) < € For n, cer | f(x =) - f(c) | = | f(n-c) | Prove that f(0) = 0. :. ∀x € (c-8, e+8) 1+(x)-+(c) = 1+(x-c) < E i lim f(x) = f(c) is cont. at sony every cER







15 We will show (i) =) (ii) =) (iii) =) (i) Choose $S = \min \{ c-a, \nu-c \}$. Let $\alpha = \max \{ (c) \}$. Define $\in [c-s,s) \rightarrow \mathbb{R}$ as $E_{1}(x) = \begin{cases} +(x+x)-+(c)-\alpha, x\neq 0 \\ x \end{cases}$ (f(c+h) makes serve because) lin E,(h) = 0 (why?) Clearly, of (c+h) = f(c) + xh +hE,(h) (h=0 must be checked separately) (ii) =) (iii) lim | t (c+h) - t(c) - xh $= \lim_{h \to 0} |\epsilon_1(h)| = 0$

