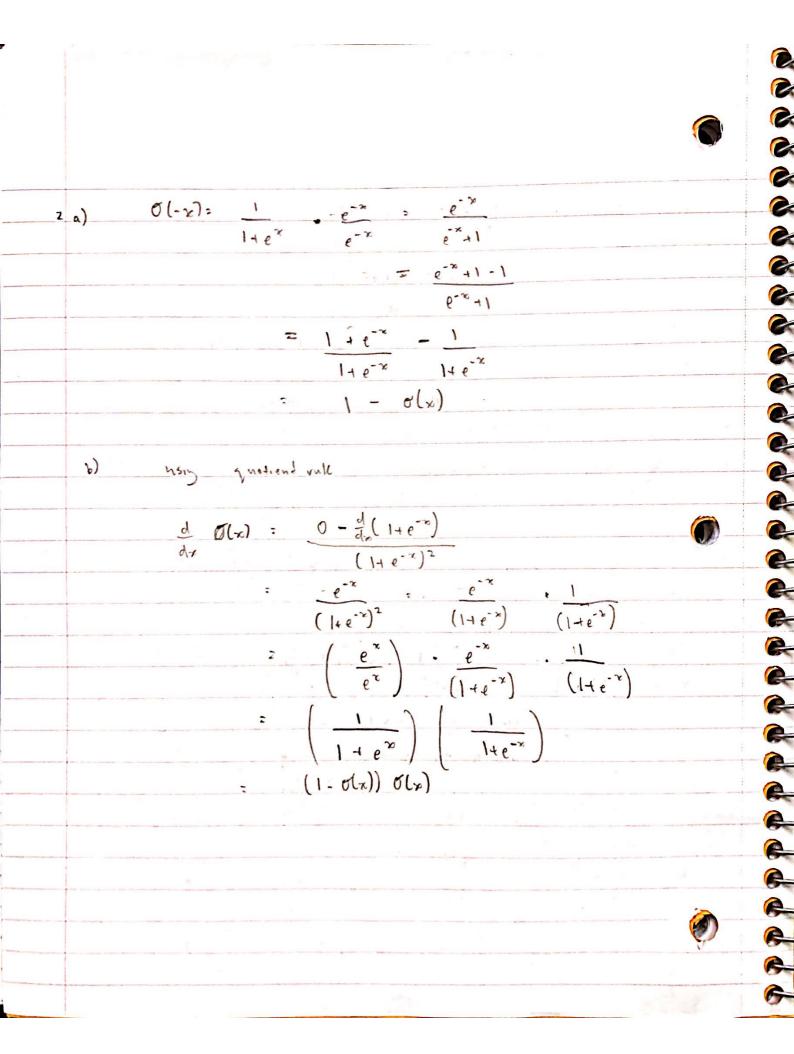
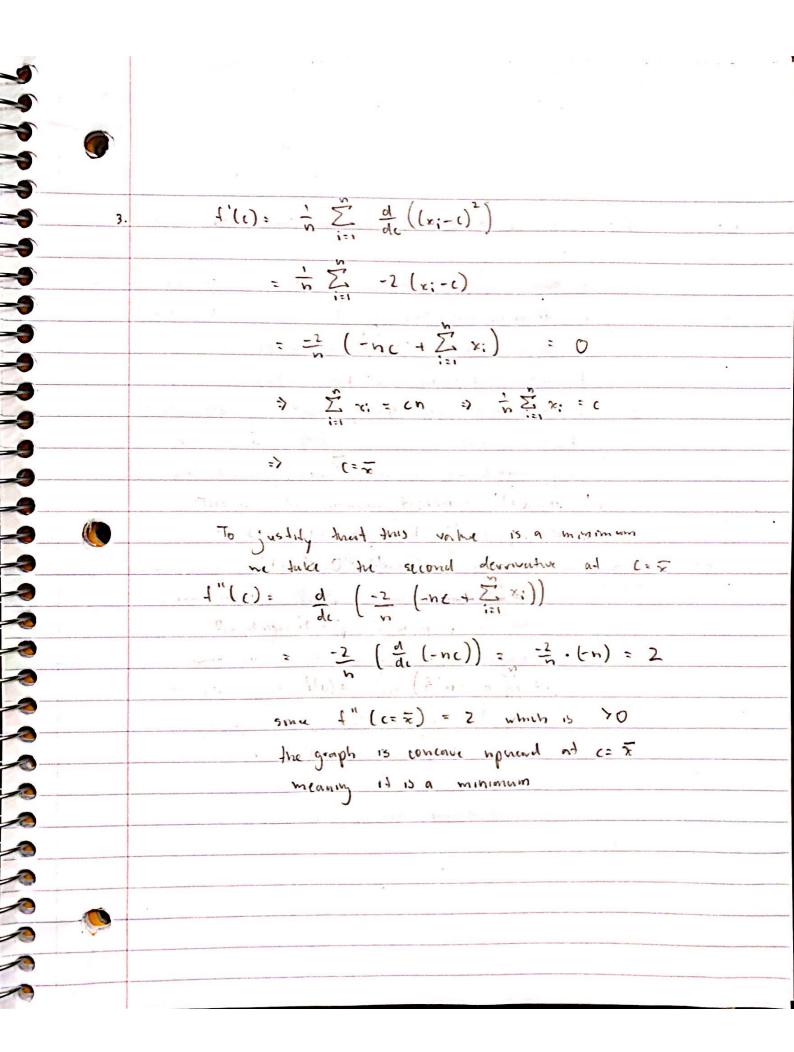
a) False; it me re-arrange to

\(\tilde{\Sigma}_{i} \tau_{i} \tau Consider the case of n=2. If we expand the shangialions a, x, + a2 x2 = (a,+a2) (x,+x2) = a, x, + a, x2 + a2 x, + a2 x2 Which is only true if 9,9024 928, = 0. Hence folse Counter example: n=2, a, =x,=0, az=xz=1 substituting for to me home, na, = na, (n & x;) = 93 2 2; = 2 03 2; c) False; substituty for a and \(\times \) where,

\[
\text{Na} \times \frac{1}{2} \times \left(\frac{1}{2} \times \frac{1}{2} \times \right) \left(\frac{1}{2} \times \frac{1}{2} \times \right) \left(\frac{1}{2} \times \frac{1}{2} \times \right) \)

\[
\text{Na} \times \frac{1}{2} \times \frac Similarly to part a) it we use no 2 then \(\sum_{a:\pi_i} = \frac{1}{h} \sum_{i=1}^{n} \arepsilon_{i=1}^{n} a, x, + 92 x2 = = = (a, + 02) (x, + x2) thick is only time it (a,x, + a, 2,) - a,x, - a,x, = 0 Counter example: N=2, 9,=x,=0, 92=x2=1





a) 2. compos be formed with reformation in the article

while we know the percent od surveyed adults who have a great trust in religious tenders it screntists respectively, we don't know the intersection of the 2 groups.

In other words; we don't know the presentage of the adults who greatly that scientots, that trust religious leaders as nell and rice reserve by just known the intermation presented in the article

b) Toyota; Since the car has from berkeley (Alancola Compty)
and we know that the most common make
of car in Alameda is Toyota, we
gress Toyota. Also, since we know
nothing about the relative frequencies of
specialize makes of care getting specialing
wislations, the tast final the car
was speedly gives his no additional information
To assure the make of the care.



5	Let A = the probability a 40 yr old nomen has
	brenst conver
	B= the probability a normer tests positive for
	brenst comus
	using Bayes Rule:
	P(AIB) = P(BIA) P(A)
	P(b) Note PLA)= 1-PLA)
	Many total probability rule:
	= P(DIA)P(A)
	P(BIA) P(A) + P(BIA) P(A)
	= (.80) (0.01)
	(10,0-1) (10,0(08,)
	= .008 = 0.078
	.006 4 .09504 .10304
1	
1	

The graph is approximately bell shaped and 6 B symmetric about the menn, so are com assume a normal probability distribution. In a normal distribution about 68% of try duta falls within I standard devingion of the Phone 68% of the data seems to be R in the verye 150 ± 6.1 2 -

5

5

5