Question 5

2010 HSC Mathematics

Sample 2 Start here for Question Number: 5 (A) (1) A= 2TT-2+2TT-6 - 7= Licensterance = 2 Tir V= 2Tr2h - port · h= U/2 Tr2 :. h= 10/2TTrZ A= 2TTr2 + 2TTr (10/2TTr2) = 2 TTr2 + 20 20' FFF 1 , ZIFEZ r = 2 TTr2 + 10/5r (11) the as alter f(x) = 2 TT-2 + 20 / r dy/dx = 4Tr + r-20 +2 0 = 4 TTr 3 + r - 20 r 2 (D(i) Prove: sect x + secx tanx = 1+ smx LOSZX LHS = Sec2X+SecX tanx = (1) 2+ 1 + sin (LOSX) QLOSX TOUTLOS = 1+ LOSX + Sim Lost

Question 5

2010 HSC Mathematics

Band 1/2

Sample 2 = 1+ Los × + sin los × LOSZX LOSX (ii) Usinx = 1 prove: It sinx = 1 Los2x I-sinx Los2x I-sinx LIFS= 1+ SINX Loszx = 1 + sin × Los 2× Los 2× $(\overline{11})\int_{0}^{\frac{1}{74}}\frac{1}{1-\sin x}dx$ (C) Aven Jx2 dx Al= 1 1= " ((x) 2 dy $= \int_{-\infty}^{0} \frac{1}{x^2} dx$ AZ= fb zz dx Additional writing space on back page. Office Use Only - Do NOT write anything, or make any marks below this line.