1/17/22 Kyle Connelly COSC 360 HW#2 2. Compose the tourier transform of f(t) = S(t-to) F(w) = Sifet exp(jwt) = Scos(wto) - Sisin(wto) => &((os(wto) - j sin (wto)) >> & ej(-wto) (F(w) = Sejwto) a) Find the magnitude of $F(\omega)^2 = (\delta e^{-j\omega t_0})^2$ $= \frac{S^{2}(e^{-j\omega t_{0}})^{2}}{S^{2}((05^{2}(\omega t_{0}) - js_{1}n^{2}(\omega t))}$ $= \frac{S^{2}(1)}{[F(\omega)]^{2} - S^{2}(1)}$ b) Compute the Phose Flw) = 8 e-juto (0=-wto) # /(x) = -2x C) Compuse the group delay - db = to