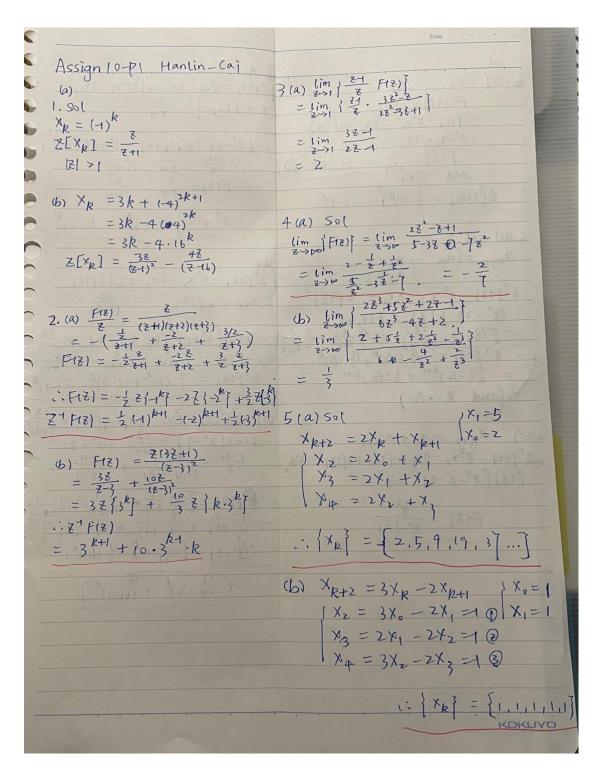
Dear TA:

Special thanks for your patience in correcting my homework this semester, I sure appreciate it. Hope you all the best in next term!

And wish you a happy new year in advance.

Regard, Hanlin Cai



7.10 sol 501. 2º F18) - 270 - 2x, -4(2 F18) - 2x.) 6.(a) an+z = an +4 F(Z)]= 3 = 3 = 7 F(Z+2) = F(Z) 2 F(2) - 2 x. - 7x, = F(2) $\frac{1}{12} = \frac{1}{24} - \frac{1}{(2-2)^2}$ $\frac{1}{12} = \frac{1}{24} - \frac{1}{(2-2)^2}$ $\frac{1}{12} = \frac{1}{24} - \frac{1}{(2-2)^2}$ $(z^2-1) \cdot F(z) = Z$ $F(z) = \frac{z}{z^2+1} = z(z(z_1-z_1))$ and z = zそ[fizi]= = 1 (18) - = (1) 6.6b) sol. $a_{n+2} = 2a_n$ $a_0 = 0$ $a_1 = 2$ Z'F(8)-ZX,-ZX,+5(ZF(8). ZX0) + 6 F(Z) = 42 (Z-2) $(z^{2}-z) \cdot F(z) = Z(x_{0}+x_{1})$ $F(z) = \frac{zz}{(z^{2}-z)} = (-\frac{z}{z} \frac{z}{z+1}z + \frac{z}{z} \frac{z}{z+1}z + \frac{z}{z$ $\frac{1}{100} \left[\frac{2^2 + 52 + 6}{2} \right] + \frac{4}{2} = \frac{48}{2 - 2}$ $\frac{1}{100} \left[\frac{2^2 + 52 + 6}{2} \right] + \frac{2}{2 + 2} + \frac{16}{2} = \frac{48}{2 - 2}$ $\frac{1}{100} \left[\frac{2}{2} + 52 + 6 \right] + \frac{16}{2} +$ = = (-5)k+1 + = (52)k+1 1 (and 2 > 52) (c) $\xi^2 F(\xi) - \xi^2 x_0 - \xi x_1 - 9 f(\xi) = \frac{28}{(24)^2} + \xi^2 + 3$ $\frac{F(\xi)}{\xi} = \frac{2}{(24)^2} + \frac{2}{(24)^2}$ 6.(c) an+z = an + an+1 Z (12) - 22x, - 34 = F(2) + 2 (12) - 3X F(E)[E2-E-1] = 72 + 32. 2+3 + 3. 2+3 + 3. 2-3] [12] = x (ZF(Z) = [-5 (18-+ (R.1K) + 17 (3) k + 35 (-3) k]

Assign 10 -PZ

8. (a) Sol eit eit

Sint =
$$\left(\frac{e^{ikT} - e^{-ikT}}{2^{ikT}}\right)$$

SinckT) = $\left(\frac{e^{ikT} - e^{-ikT}}{2^{iT}}\right)$

$$= \frac{1}{2^{j}} \cdot \frac{2e^{jT} - 2 \cdot e^{-jT}}{2^{j} - e^{-jT}}$$

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$$= \frac{2e^{jT} - 2e^{-jT}}{2^{j} - 2e^{-jT}}$$

(b) Sinht = $\frac{e^{jT} - e^{-jT}}{2^{j} - 2e^{-jT}}$

$$= \frac{2e^{jT} - 2e^{-jT}}{2^{j} - 2e^{-jT}}$$

$$= \frac{2e^{jT} - 2e^{-jT}}{2^{j} - 2e^{-jT}}$$

$$= \frac{2e^{jT} - 2e^{-jT}}{2^{j} - 2e^{-jT}}$$