

22610

P.5

10/18/00

$$T(x) = \frac{3x+5}{(x+2)(x^2+4x+6)}$$

$$= \frac{g_2}{x+2} + \frac{g_3}{x+A_1} + \frac{g_3^*}{x+A_1^*}$$

$$= \frac{g_2}{x+2} + \frac{g_1x+g_0}{x^2+4x+6}$$

$$A_{1,2} = -\frac{4}{2} \pm \frac{1}{2} \sqrt{16-4 \times 6}$$

choose

$$A_1 = -2 + j\sqrt{2}$$

for g_2 multiply by $(x+2)$

$$\left. \frac{3x+5}{x^2+4x+6} \right|_{x=-2} = g_2 + \left. \frac{(g_1x+g_0)(x+2)}{x^2+4x+6} \right|_{x=-2}$$

$$g_2 = \frac{-6+5}{4-8+6} = \frac{-1}{2} = -\frac{1}{2}$$