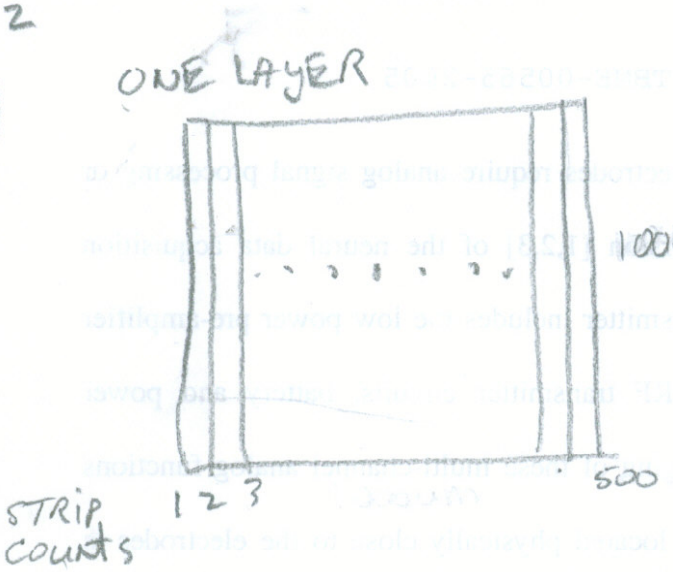
HW2

1)



AS per GROUND rule we have 2 um metal on center

$\therefore$ 500 LINES ON 2 um center

length of wire/layer = 500 x 1cm + 1cm

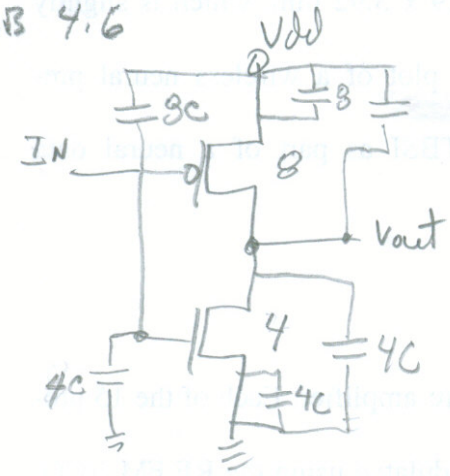
= 501 cm / layer

Total length = 8 lay / 501 cm/lay = 4008 cm

= 40,8 meters

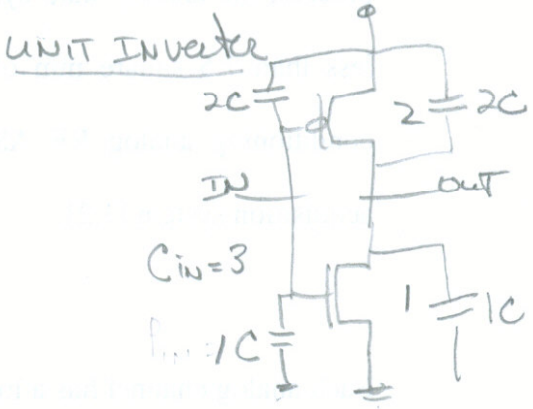
TOTAL LENGTH $\approx$ 400.8 football fields

2) qPROB 4.6



$C_{IN} = 12C$

Logic EFFORT $= \frac{12C}{12C} = 1$



PARASITIC DELAY

$R = \frac{1}{4} R_{INV}$

$C = 4 C_{INV}$

$\therefore \frac{1}{4} R_{INV} \, 4 C_{INV} = R_{INV} C_{INV} = P_{INV}$

$\therefore P = P_{INV}$