ECE3204 Finding Loop Gain

1

Set all independent sources equal to zero

2

Break feedback loop (don't change loading)

2A

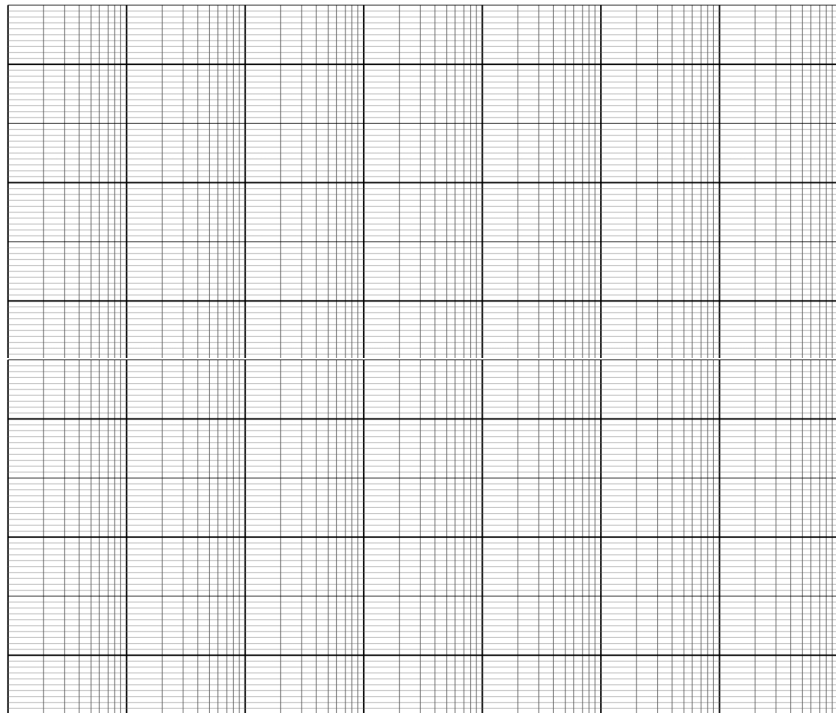Redraw in A, β format for clarity (optional)

3

Find
$|A|, |\beta|$ $\angle A, \angle \beta$

1

Plot Loop Gain

$|A\beta|\ \angle A\beta$

2

Find f_1

Frequency at
which $|A\beta| = 1$
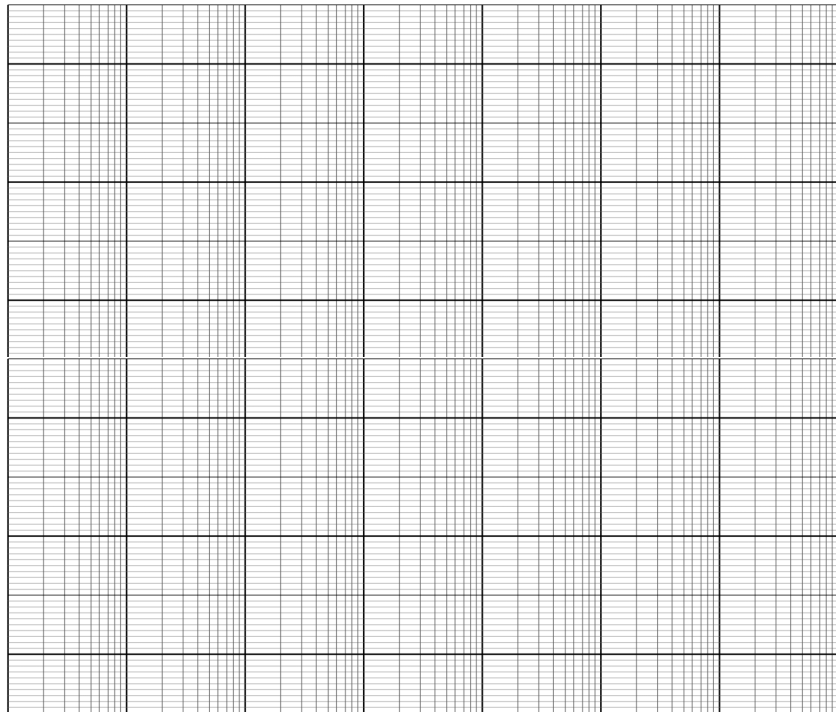
3

Check $\angle A\beta$ at f_1
compared to -180°

1

Plot $|A|, \left|\dfrac{1}{\beta}\right|$

2

Find f_1

Frequency at

which $|A| = \left|\dfrac{1}{\beta}\right|$

(same as $|A\beta| = 1$)

3

Check "rate of closure)

between $|A|, \left|\dfrac{1}{\beta}\right|$ at f_1

compared to 40dB/dec