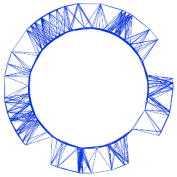


# Experiment



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# A1-1

English (Official)

Write down the numbers 0 to 9 in the following table:

0	1	2	3	4	5	6	7	8	9

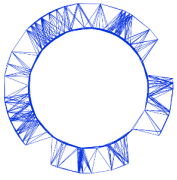
## Part A: Circuit Dimensioning (2.5 points)

**A.1** (0.2 pt)

$V_{\text{out}} =$

**A.2** (0.5 pt)

#	$R_{T1}$	$R_{T2}$	$R_{T3}$
$\overline{R}$			
$\sigma_R$			



**A.3** (0.3 pt)

Demonstration:

**A.4** (0.4 pt)

$$R_{\square} = \quad \pm$$

$$\rho_{\text{Carbon film}} = \quad \pm$$

**A.5** (0.5 pt)

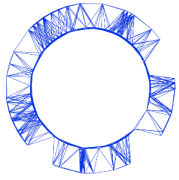
Demonstration:

Measured values:

$$R_1 =$$

$$R_2 =$$

$$\kappa =$$



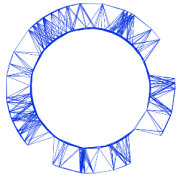
**A.6** (0.3 pt)

$R_1$ Points	$R_x$	$R_y$	$R_2$ Points	$R_x$	$R_y$
Z			Z		
A			H		
B			I		
C			J		
D			K		
E			L		
F			M		
G			N		
V			W		

**A.7** (0.3 pt)

Points	$V_{out}$	Points	$V_{out}$
A		H	
B		I	
C		J	
D		K	
E		L	
F		M	
G		N	
V		W	

# Experiment



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# A1-4

English (Official)

## Part B: Characteristic Curves of the JFET transistor (4.5 points)

**B.1** (0.2 pt)

$I_{DS} =$

**B.2** (0.8 pt)

$I_{DS}$  current values:

Gate/Drain	Z	H	I	J	K	L	M	N	W
Z									
A									
B									
C									
D									
E									
F									
G									
V									

**B.3** (0.2 pt)

$f =$

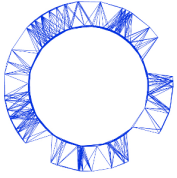




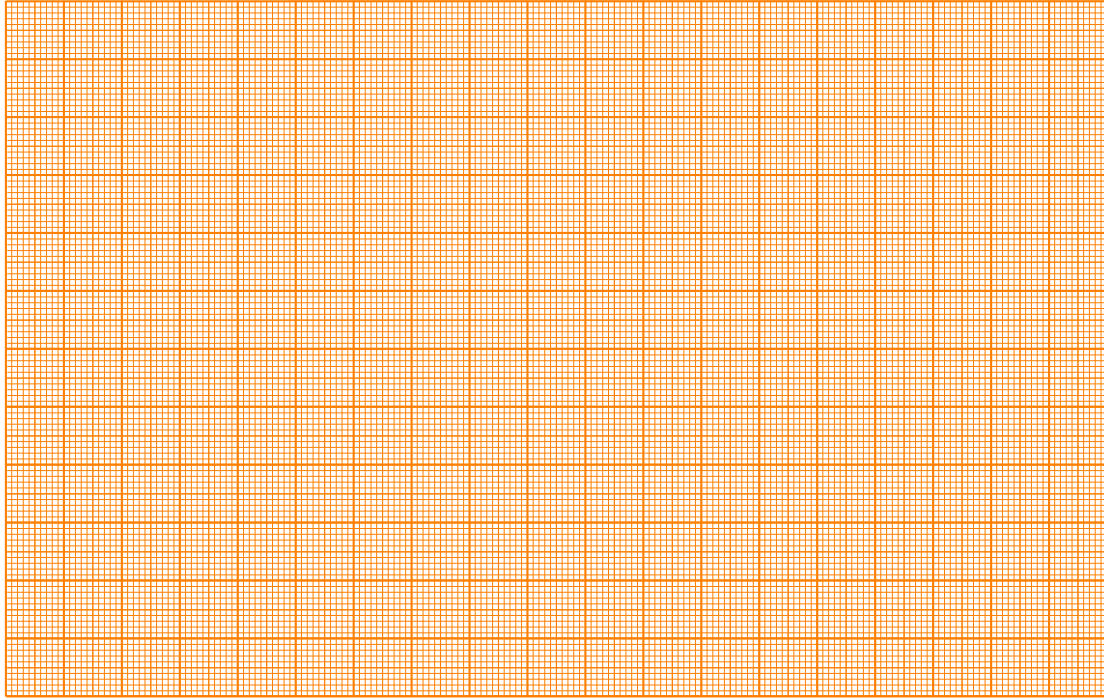


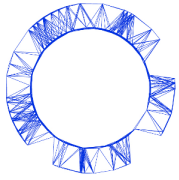






**B.5** (0.5 pt)  
Output curves:

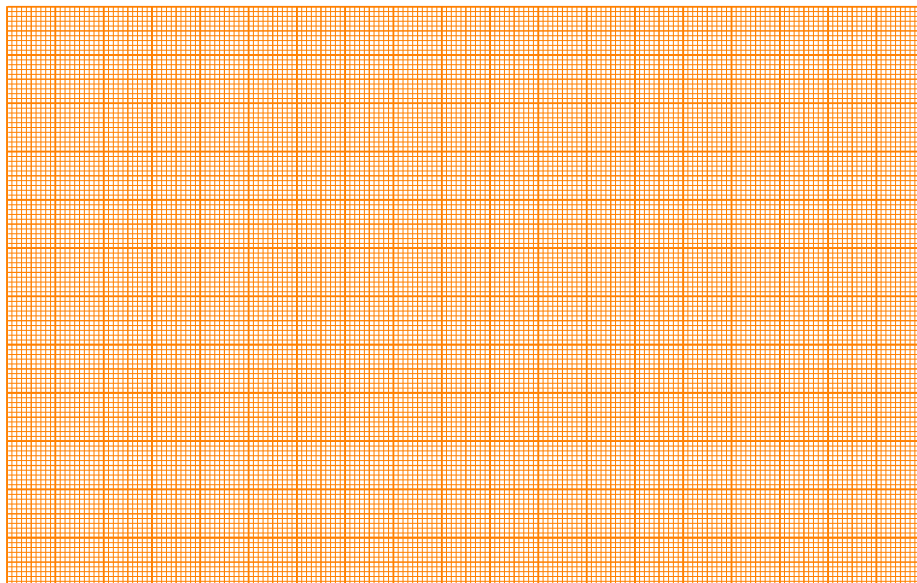


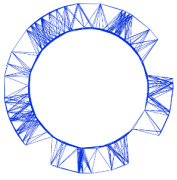


**B.6** (0.5 pt)

$V_{GS}$	$R_{DS}$

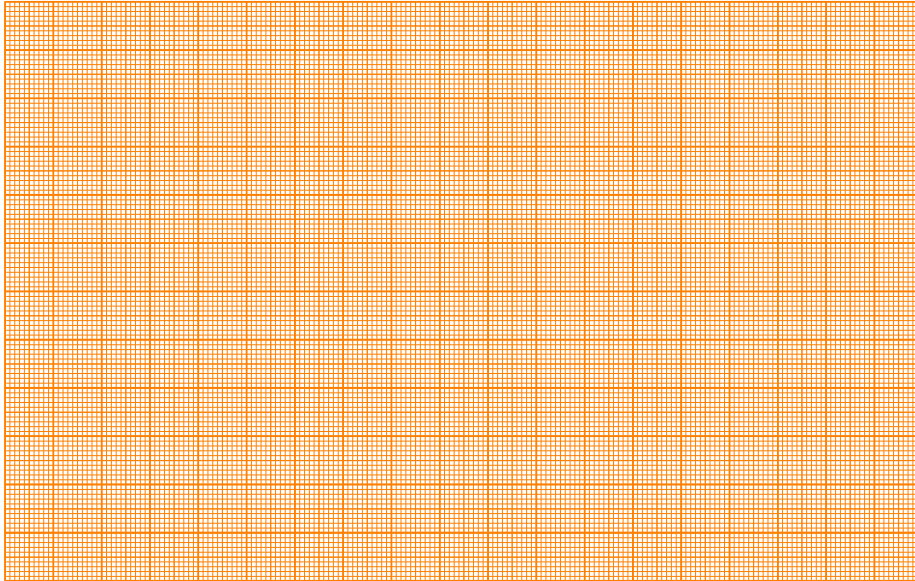
Graph:  $R_{DS}(V_{GS})$





**B.7** (0.3 pt)

Transfer curve:



**B.8** (0.4 pt)

$I_{DSS} =$

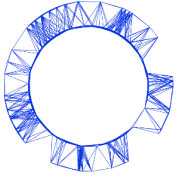
$V_P =$

**B.9** (0.4 pt)

Measured transconductance:  $g =$

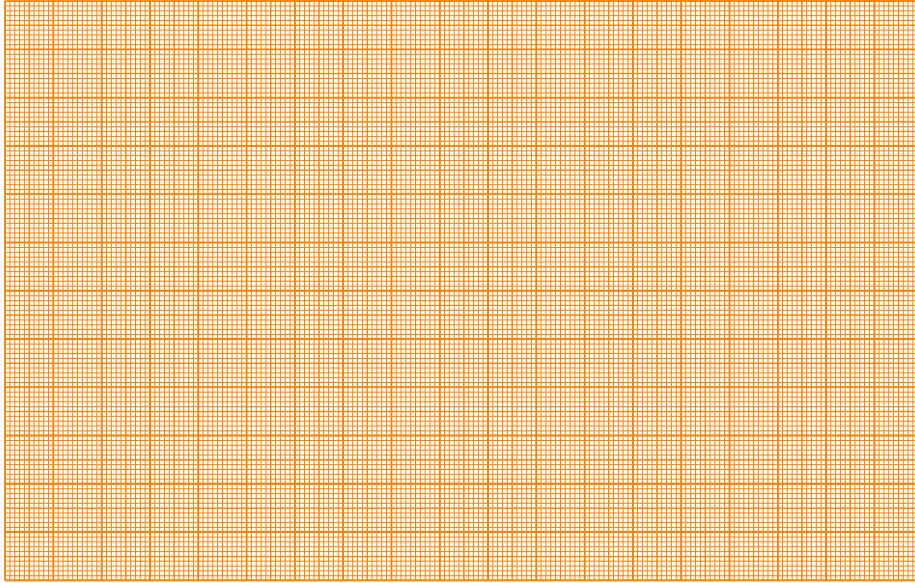
Calculated transconductance from JFET model:  $g =$



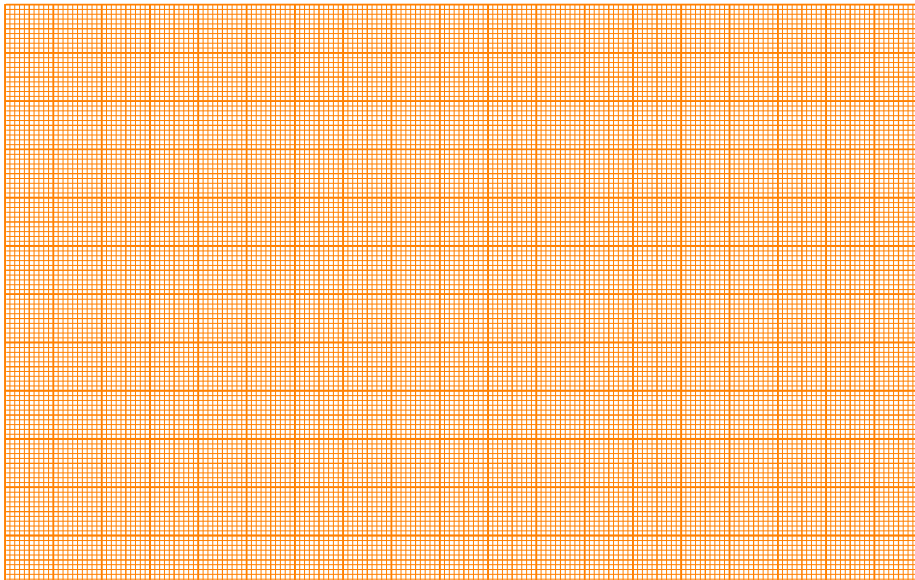


**C.2** (1.2 pt)

Graph:  $I_{DS}(t)$

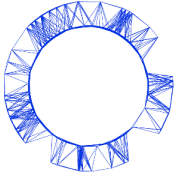


Auxiliary graph to determine  $\tau_1$ :



$\tau_1 =$





**D.2** (0.5 pt)

Graph:  $V_{\text{out}}(V_{\text{in}})$

