

## Problem 1: Elektrisk ledeevne (konduktivitet) i to dimensjoner (10 poeng)

Skriv tallene fra 0 til 9 i den følgende tabellen:

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>

### Del A. Fire-punkts-probe (4PP) målinger (1,2 poeng)

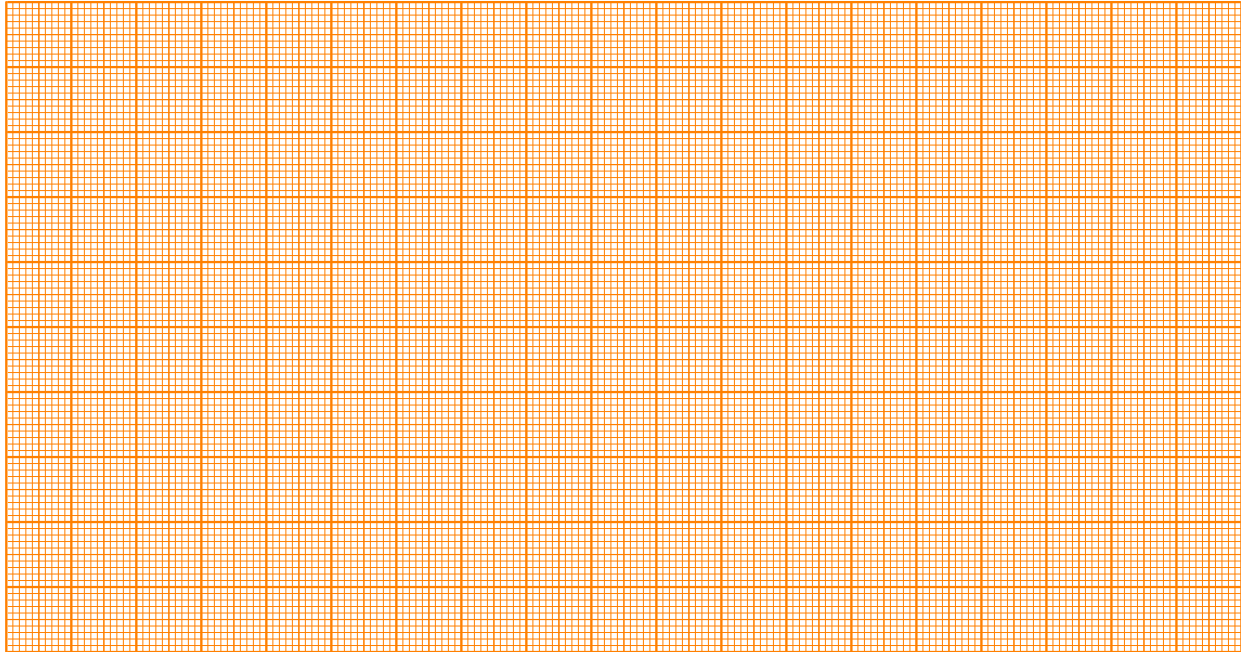
**A.1** (0.6 pt)

$s =$

$I$	$V$	$I$	$V$

Plott dataene dine i **Graf A.1**.

**Graf A.1:**  $I$  vs.  $V$



**A.2** (0.2 pt)

$R =$

**A.3** (0.4 pt)

$\Delta R =$

## Del B. Tynnfilmresistivitet (0,3 points)

**B.1** (0.3 pt)

$\rho_{\square} \equiv \rho_{\infty} =$



## Del D. Geometrisk korreksjonsfaktor (1,9 poeng)

### D.1 (1.0 pt)

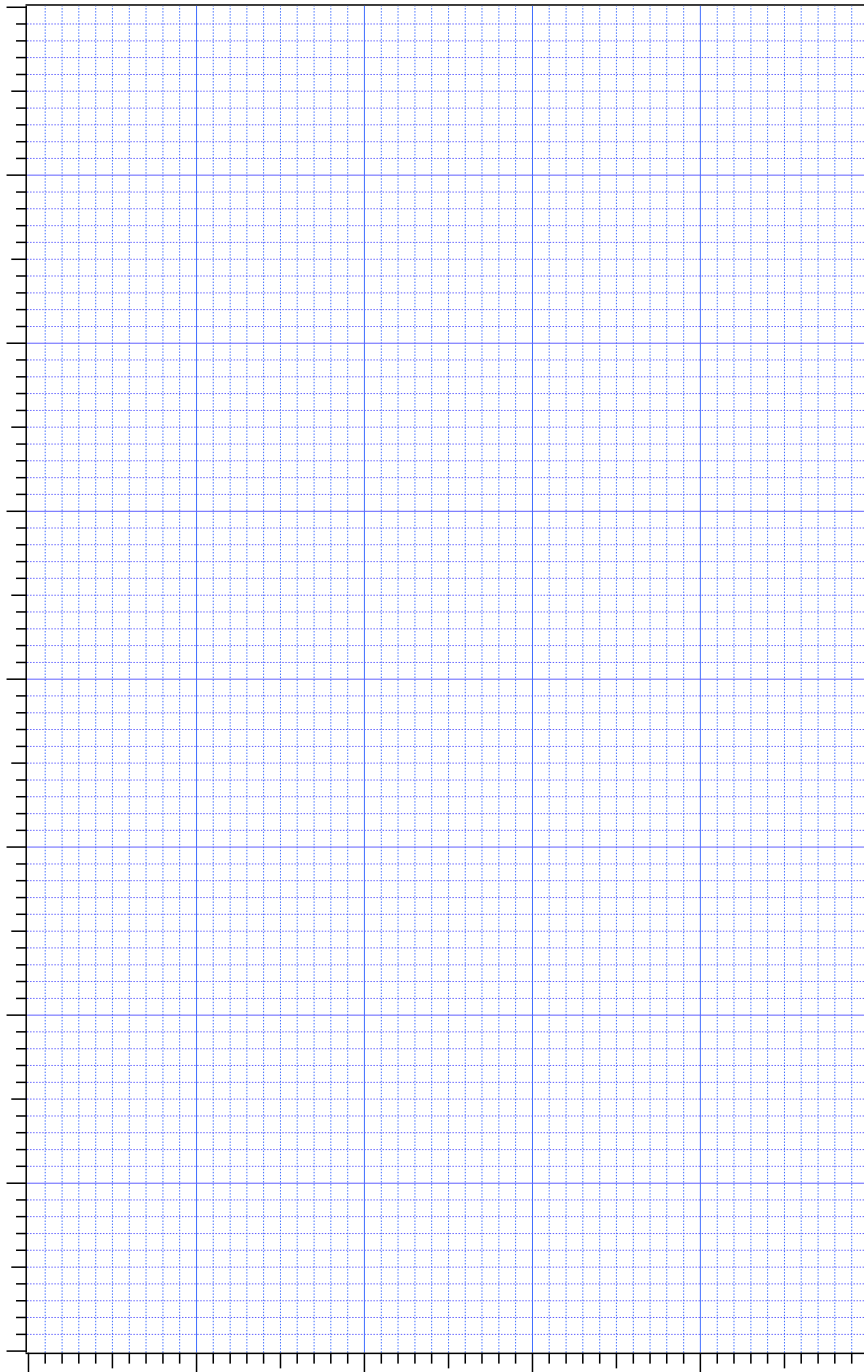
Plott dataene dine på det passende grafarket: lineær (Graf **D.1a**), semi-logaritmisk (**D.1b**) eller dobbellogaritmisk (**D.1c**) på de følgende sidene.

### D.2 (0.9 pt)

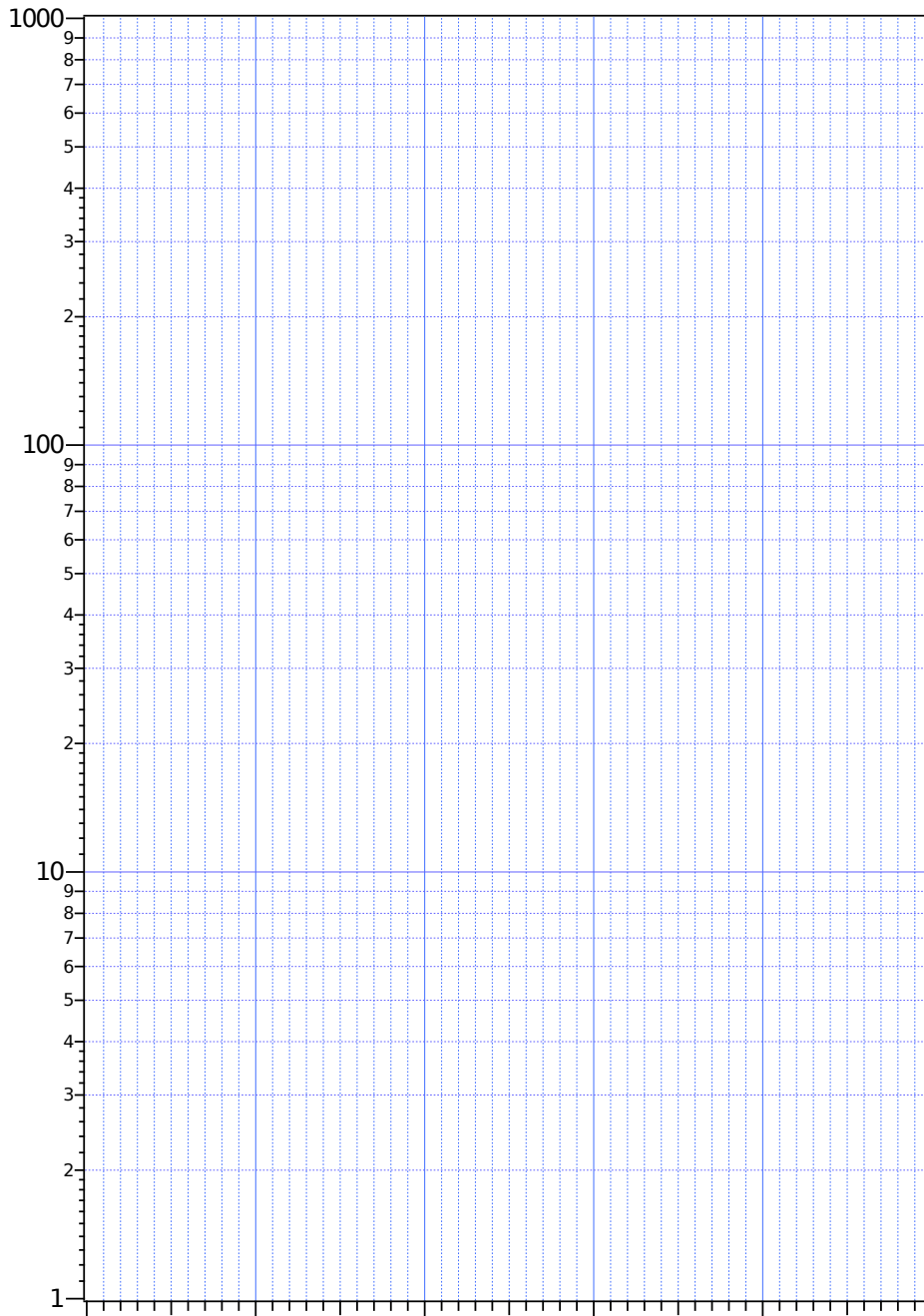
$a =$

$b =$

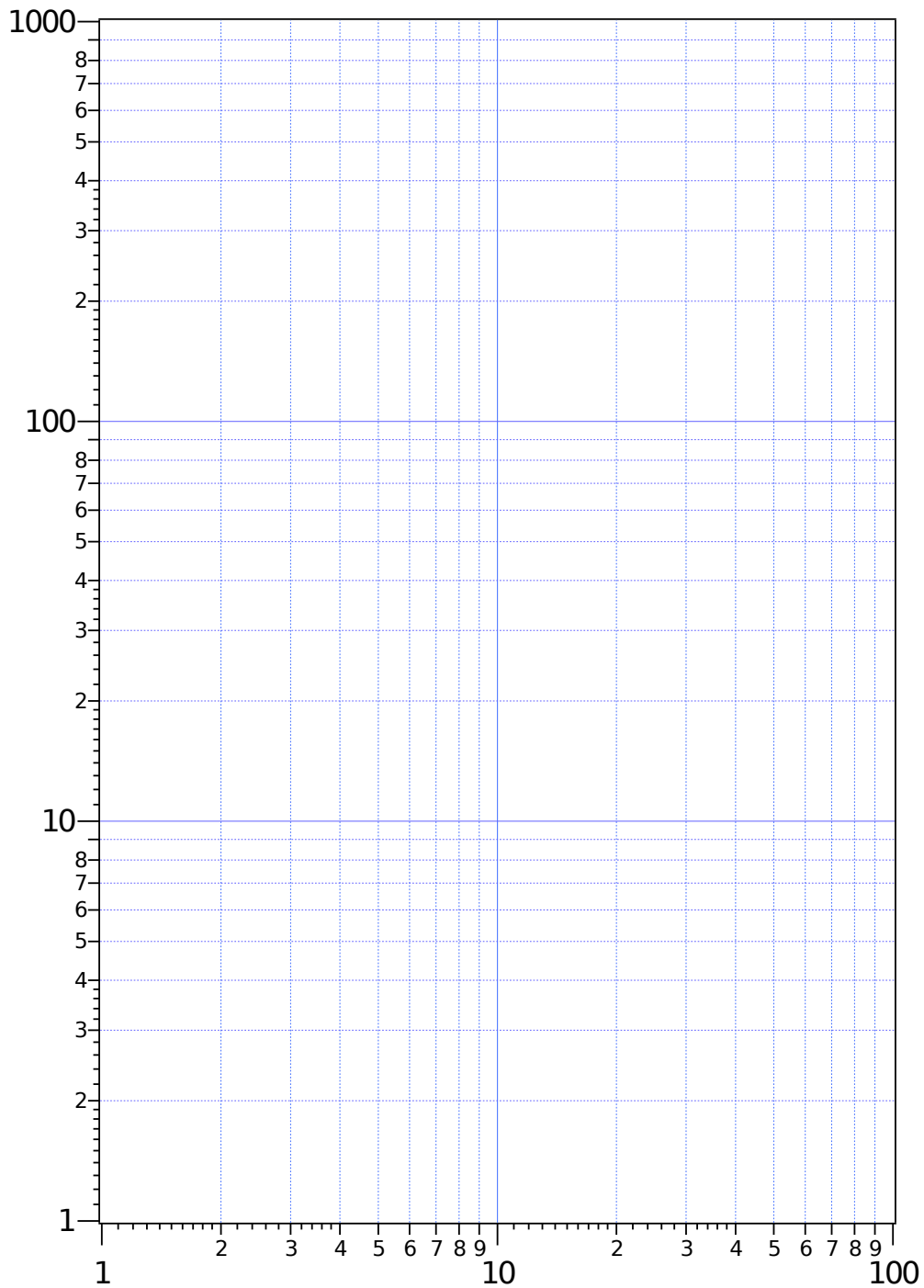
**Graf D.1a: lineær skala:**



Graf D.1b: semi-log skala:



Graf D1c: dobbel-log skala:



**Del E: Silisumplaten og van der Pauw-metoden (3,4 poeng)**

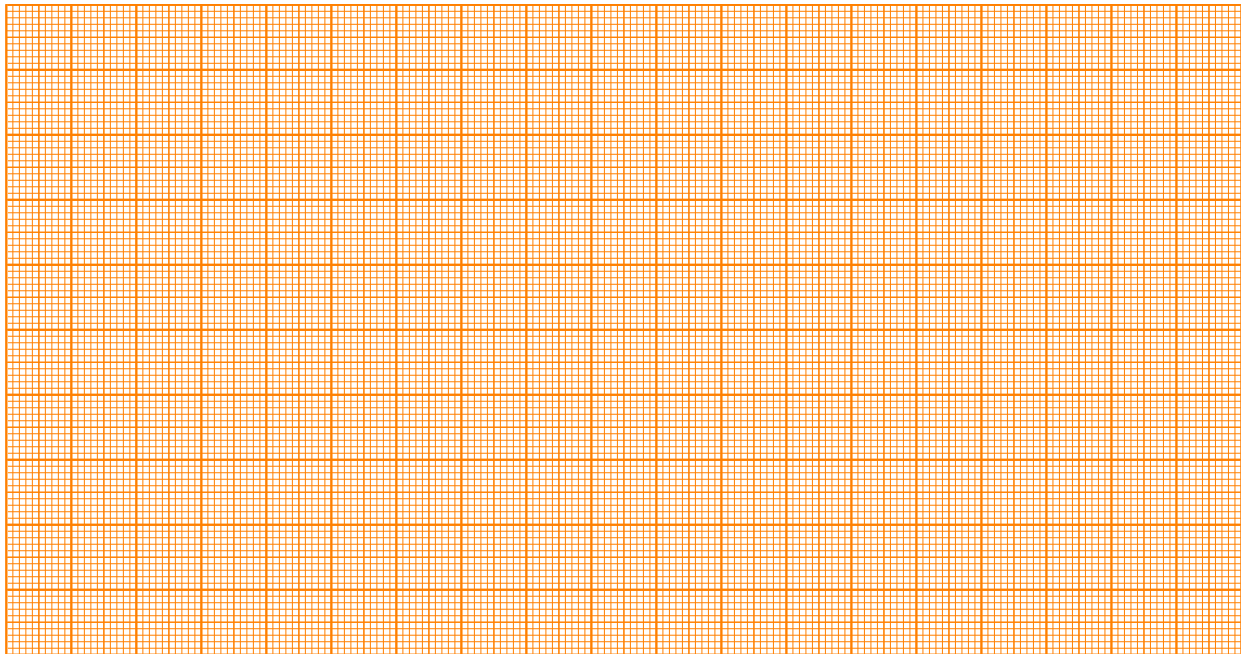
Noter nummeret på platen her:

**E.1** (0.4 pt)

$I$	$V$	$I$	$V$

**E.2** (0.4 pt)

**Graf E.2:**  $I$  vs  $V$



$R_{4PP} =$

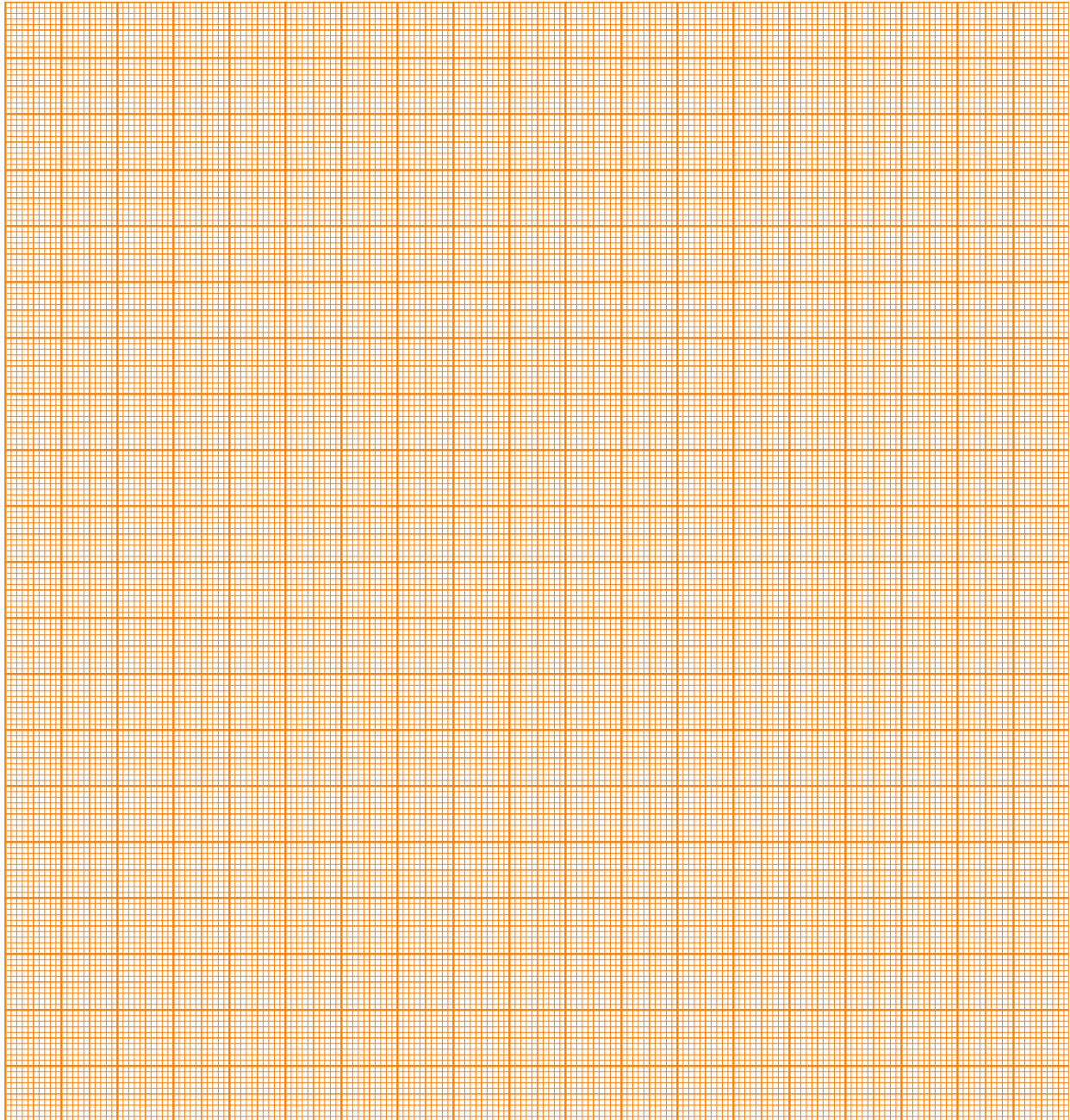






**E.7** (0.5 pt)

**Graf E.7:**  $I$  vs.  $V$



$\langle R \rangle =$

**E.8** (0.4 pt)  
Beregning:

$$\rho_{\square}(\text{vdP}) =$$

**E.9** (0.1 pt)

$$\frac{\Delta\rho_{\square}}{\rho_{\square}(\text{vdP})} = \quad = \quad \%$$

**E.10** (0.1 pt)

Resistiviteten til Cr tynnfilm  $\rho =$