

A.0 (0pt)

0	1	2	3	4	5	6	7	8	9

A.1 (0.2 pt)

$$R_{en} = \pm$$

$$\theta_{en} = \pm$$

A.2 (0.5 pt)

n	$R(\Omega)$	$t(s)$
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		



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A1-2

A.3 (0.8 pt)

$$\Delta R / \Delta t =$$

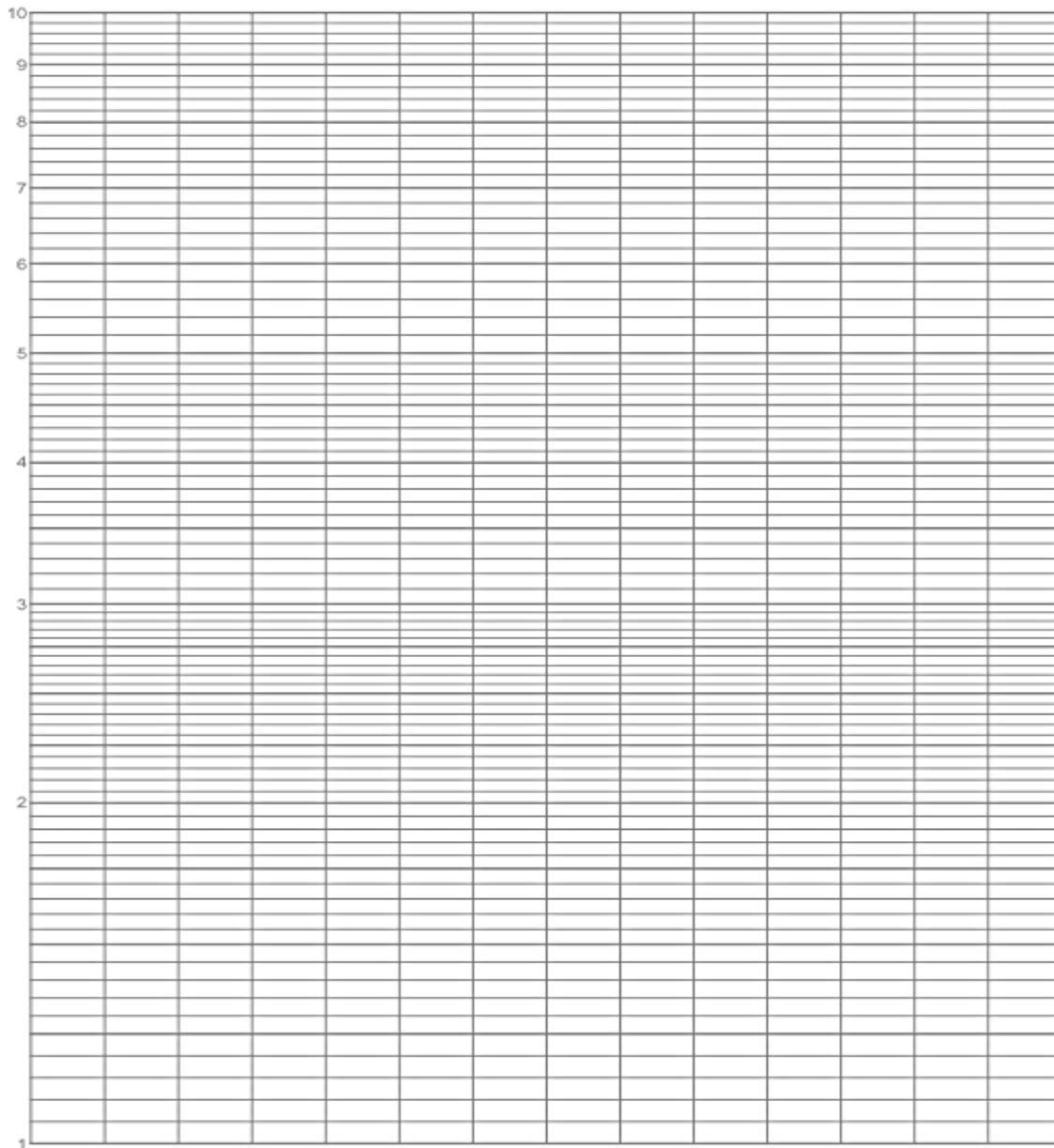
$$\Delta \theta / \Delta t =$$

$$C_s = \pm$$

A.4 (0.5pt)

n	$R(\Omega)$	$t(s)$	$(R - R_{en})(\Omega)$
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

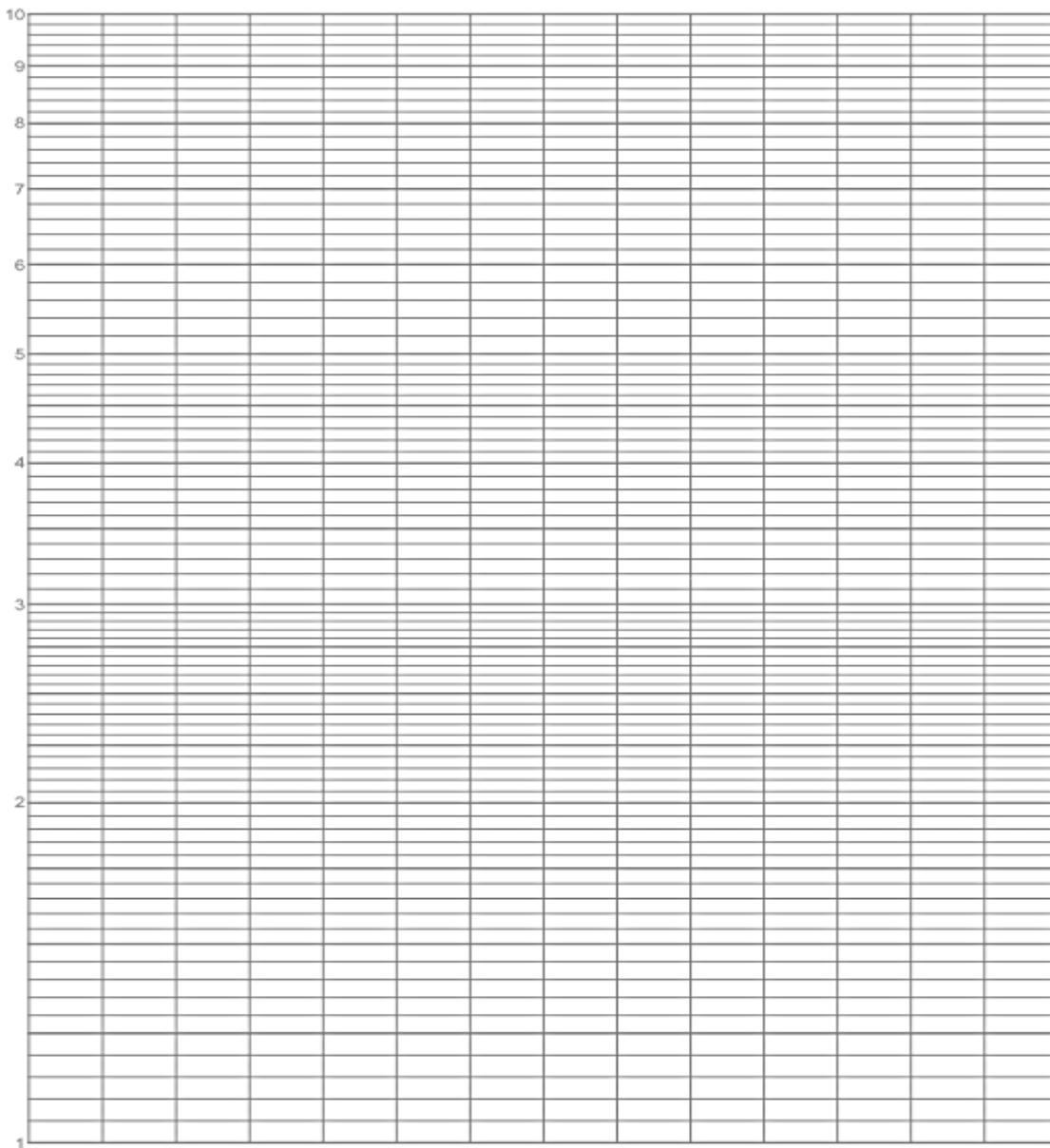
A.5 (0.7 pt)



$$\gamma = \pm$$

A.6 (0.5 pt)

N	$R_9(\Omega)$	$R(\Omega)$	$T(k)$	$\frac{1}{T}\left(\frac{1}{k}\right)$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

A.7 (0.7 pt)

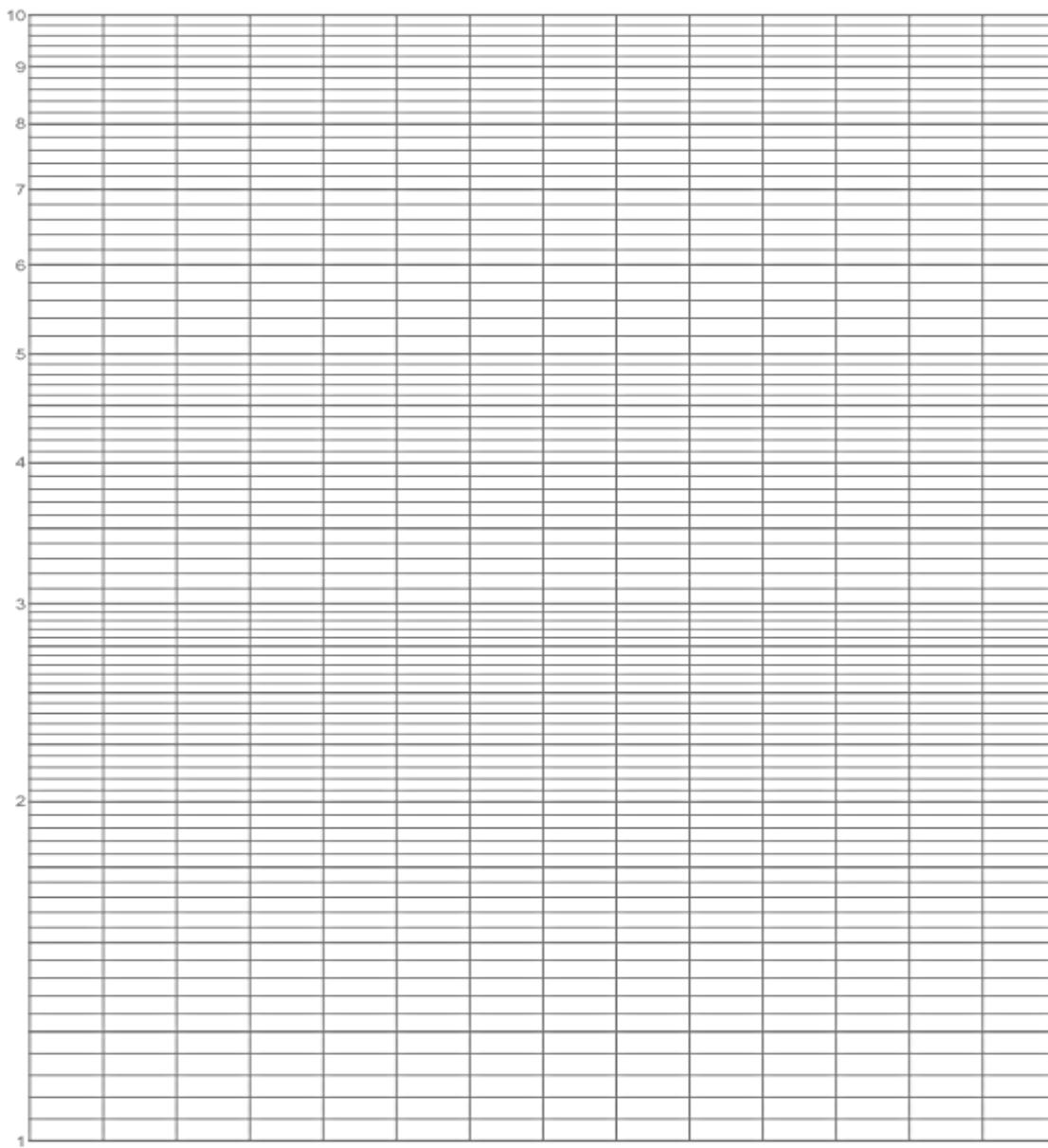
$$E_g = \pm$$

B

$$\theta_b =$$

B.1 (0.4pt)				B.5 (0.4pt)	
n	$x(cm)$	$\theta_x(^{\circ}\text{C})$	$\theta_x - \theta_b(^{\circ}\text{C})$	$B^{(1)} e^{\lambda^{(0)} x} (^{\circ}\text{C})$	$\theta'_x - \theta_b(^{\circ}\text{C})$
1	0				
2	7				
3	14				
4	21				
5	28				
6	35				
7	42				

B.2 (0.4 pt)





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A1-9

B.3 (0.6 pt)

$$A^{(0)} =$$

$$\lambda^{(0)} = \pm \left(\frac{1}{cm}\right)$$

B.4 (0.4 pt)

$$B =$$

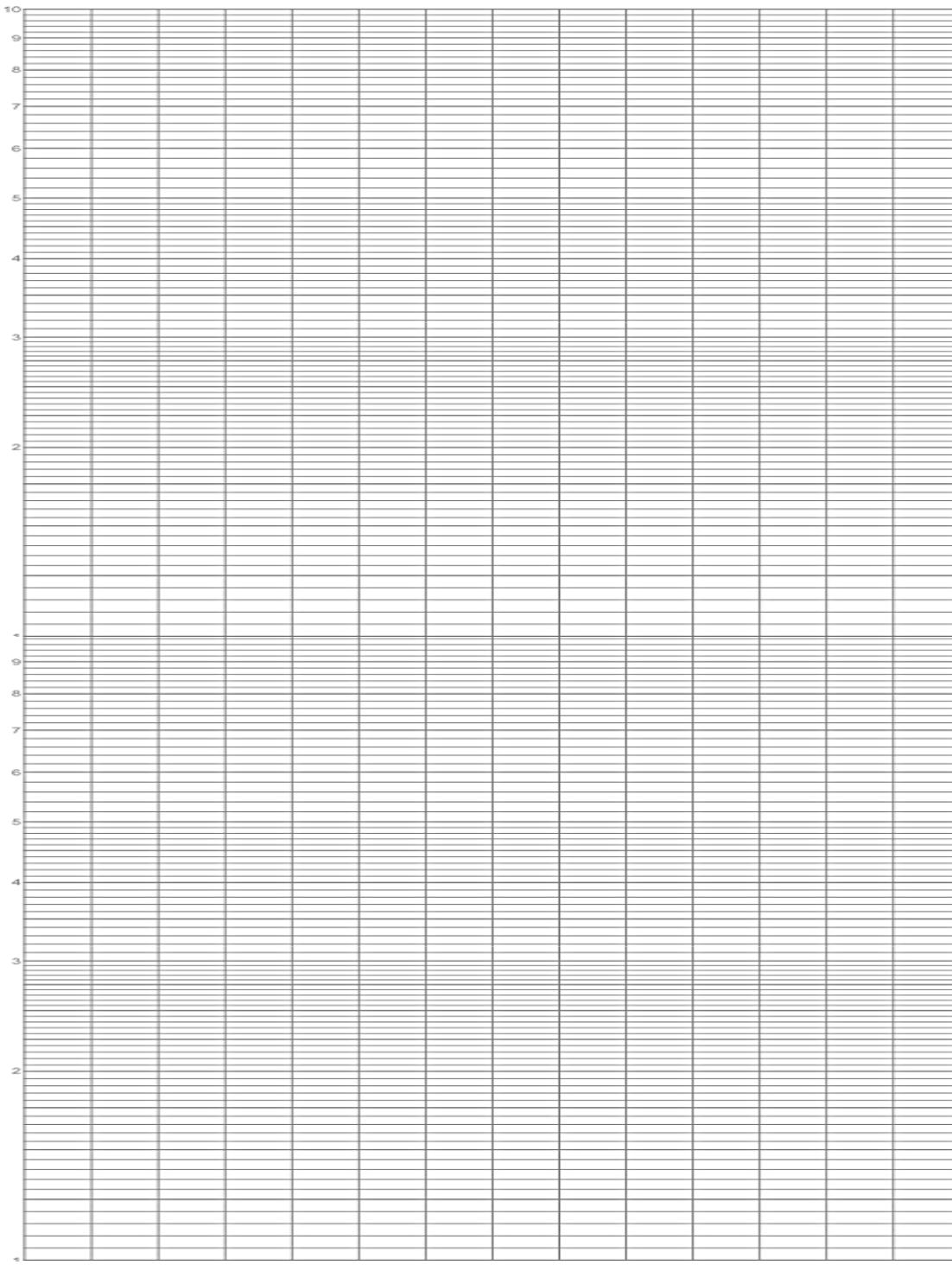
$$B^{(1)} =$$



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A1-10

B.6 (0.4 pt)



B.6

$$A^{(1)} =$$

$$\lambda^{(1)} = \pm$$

B.7 (0.9 pt)

$$\lambda = \pm$$

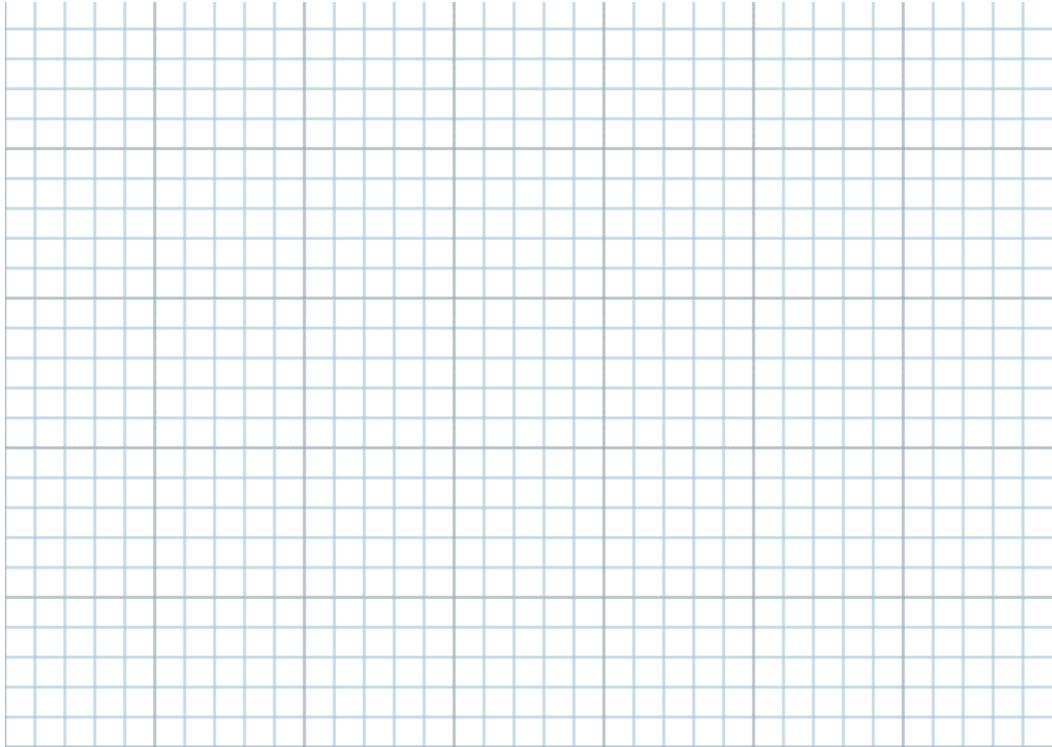
$$h = \pm$$

$$k = \pm$$

C.1 (0.4 pt)

$$\theta_b =$$

n	$x(cm)$	$\theta_x(^{\circ}\text{C})$	$(\theta_x - \theta_b)(^{\circ}\text{C})$			
1	0					
2	7					
3	14					
4	21					
5	28					
6	35					
7	42					

C.2 (0.6 pt)



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A1-13

C.3 (1.0 pt)

A large rectangular grid consisting of 10 columns and 15 rows of small squares, intended for students to draw their answer to the problem C.3.



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A1-14

$P_3 =$	\pm
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