

Name (nome):

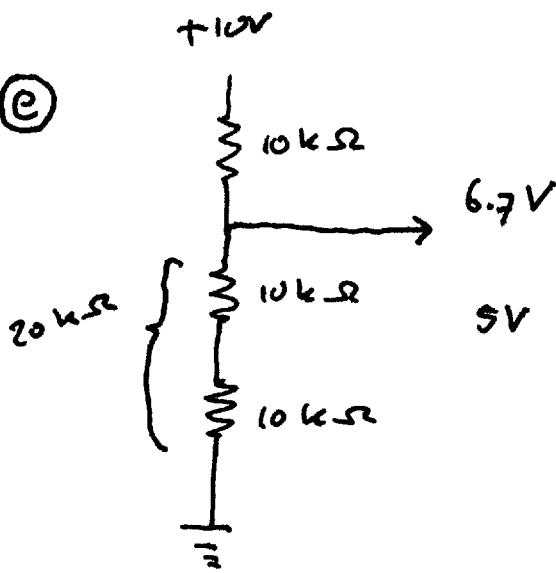
no.:

Answer to question 1 here (resposta para pergunta 1 aqui):

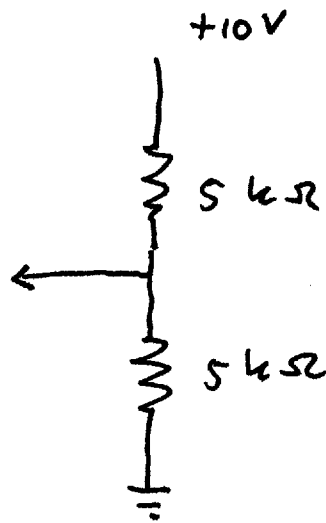
8

	4	3	5	2	3	7		1	0	0	1	3	1	
	I	R	I	R	R	I		N	N	N	N	N	N	

2) (c)



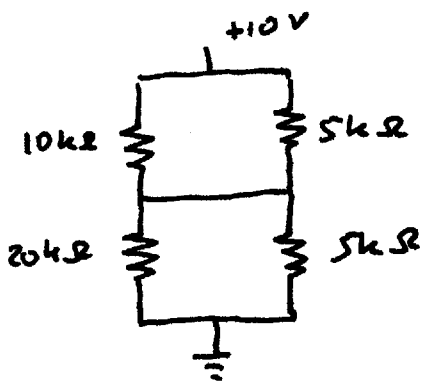
$$V = \frac{20 \text{ k}\Omega}{20 \text{ k}\Omega + 10 \text{ k}\Omega} \times 10 \text{ V} = 6.7 \text{ V}$$



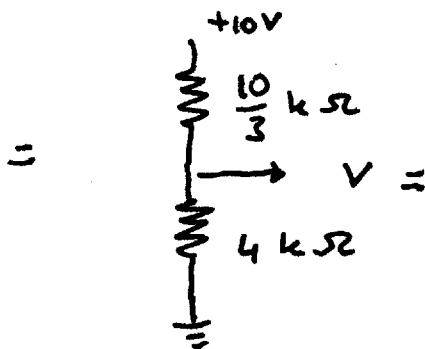
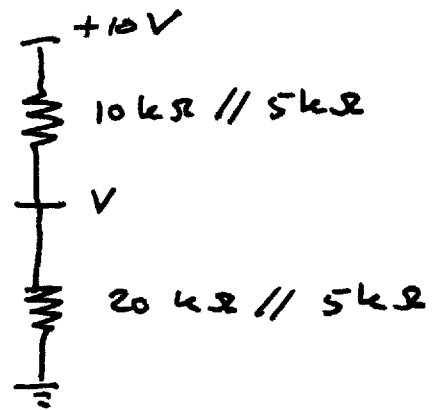
$$V = \frac{5 \text{ k}\Omega}{5 \text{ k}\Omega + 5 \text{ k}\Omega} \times 10 \text{ V} = 5 \text{ V}$$

voltmeter: $\Delta V = (6.7 \text{ V} - 5 \text{ V}) = 1.7 \text{ V}$

(f) $R_{amp} = 0$

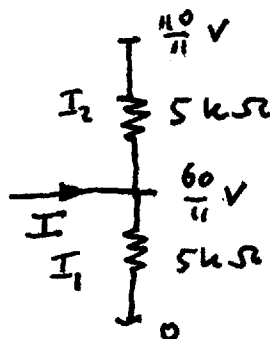


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$$V = \frac{4 \text{ k}\Omega}{4 \text{ k}\Omega + \frac{10}{3} \text{ k}\Omega} \times 10 \text{ V} = \frac{12}{12 + 10} \times 10 \text{ V} = \frac{60}{11} \text{ V}$$

back to first picture / circuit (right side only)



$$I = I_1 - I_2 = \frac{60}{11} \text{ V} - \frac{(\frac{110}{11} - \frac{60}{11}) \text{ V}}{5 \text{ k}\Omega} = \frac{2}{11} \text{ mA}$$

3) (a) $x = \text{linspace}(-2, 2, 201);$

$y = x.^2 - x - 1;$

$\text{plot}(x, y);$

(b) $y_d = \text{diff}(y) ./ \text{diff}(x);$

$y_i = \text{cumsum}(y) * (x(2) - x(1));$
↑
4/200

$\text{hold on};$

$\text{plot}(x, y_d);$

$\text{plot}(x, y_i);$