

E003+E004 Online test

Ref 1

Four resistors 1 ohm, 2 ohm , 3 ohm and 4 ohm are connected in series to 5V. Calculate the circuit current & potential difference across each resistor.

A	1A,3V,2V,5V,7V	B	0.5A,0.5V,1V,1.5V,2V
C	3A,1V,5V,6V,7V	D	0.A,1V,2V,3V,4V
Answer			

Ref 2

A 2.2K Ω resistor is connected in series with a resistor of unknown value across 16V supply. If the current is 5 mA, calculate the value of unknown resistor.

A	2 K Ω	B	3 K Ω
C	4 K Ω	D	1 K Ω
Answer			

Ref 3

Two resistors are connected in series to a 115V supply, one is known to have 470 Ω and voltage across it is 47V. Calculate (a) the value of second resistor (b) the circuit current.

A	680 Ω , 0.1A	B	800 Ω , 0.2A
C	100 Ω , 1A	D	1200 Ω ,0.1A
Answer			

Ref 4

Resistors of 5 Ω , 10 Ω and 3 Ω are connected in parallel to 12V supply. Calculate the supply current.

A	2A	B	3A
C	1A	D	4A
Answer			

Ref 5

Resistors of $33\text{K}\Omega$, and $68\text{K}\Omega$ are connected in parallel to 50V . Calculate (a) total circuit resistance (b) total circuit current (c) individual branch currents.

A	$44.5\text{K}\Omega, 4.5\text{mA}, 3\text{mA}, 1.58\text{mA}$	B	$30\text{K}\Omega, 3\text{mA}, 2\text{mA}, 1\text{mA}$
C	$22.2\text{K}\Omega, 2.25\text{mA}, 1.5\text{mA}, 0.79\text{mA}$	D	$60\text{K}\Omega, 6\text{mA}, 4\text{mA}, 2\text{mA}$
Answer			

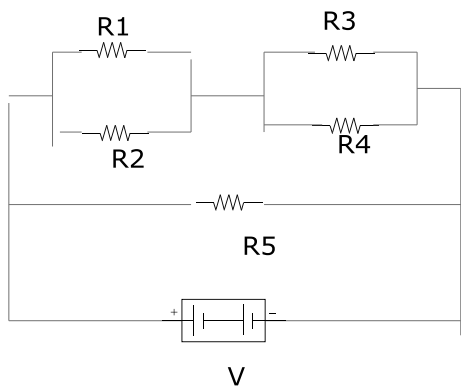
Ref 6

Resistors of values 12Ω and 8Ω are connected in parallel with R_3 of unknown value across a 6V supply. When the current from the supply is 2.25A , calculate (a) the value of R_3 (b) current flowing in R_3 .

A	$6\Omega, 1\text{A}$	B	$12\Omega, 0.5\text{A}$
C	$24\Omega, 0.25\text{A}$	D	$8\Omega, 1.25\text{A}$
Answer			

Ref 7

Five resistors are connected as follows. Find (a) R_t (b) I_t (c) 2Ω resistor current.



$R_1=2\Omega, R_2=8\Omega, R_3=3\Omega, R_4=6\Omega, R_5=7.2\Omega. V=6\text{V}$

A	$3.6\Omega, 5\text{A}, 2.66\text{A}$	B	$4.8\Omega, 5\text{A}, 7\text{A}$
C	$2.4\Omega, 2.5\text{A}, 1.33\text{A}$	D	$7.2\Omega, 7.5\text{A}, 4\text{A}$
Answer			

Ref 8

Resistors $1.8\text{ K}\Omega$ and $1.2\text{ K}\Omega$ are connected in series to 12V supply. Calculate the power dissipated in each resistor and total power.

A	0.0288W,0.0192W,0.048W	B	0.0576W,0.0384W,0.096W
C	0.0144W,0.009W,0.024W	D	1W,0.5W,0.7W
Answer			

Ref 9

A $1\ \Omega$ resistor is connected in series with parallel combination of $6\ \Omega$ and $3\ \Omega$ resistors to 6V supply. Calculate (a) R_t (b) Each resistor current.

A	$6\ \Omega$, 1A, 1.32A, 2.66A	B	$4\ \Omega$, 1A, 2A, 3A
C	$10\ \Omega$, 4A, 3A, 5A	D	$3\ \Omega$, 2A, 0.66A, 1.33A
Answer			

Ref 10

Resistors of $2.2\text{K}\ \Omega$ and $7.88\text{K}\ \Omega$ are connected in series and parallel across $3.3\text{K}\ \Omega$ and $2.7\text{K}\ \Omega$ series combination. They are connected to 9V supply .Calculate (a) R_t (b) I_t (c) Each resistor current.

A	$3.75\text{K}\ \Omega$, 2.4mA,0.9mA,1.5mA	B	$7.5\text{K}\ \Omega$, 4.8mA,1.8mA,3mA
C	$2\text{K}\ \Omega$, 1.2mA,0.5mA,1mA	D	$10\text{K}\ \Omega$, 8mA,2mA,3mA
Answer			

Ref 11

3 filament lamp indicators are each rated 12V and 0.36 w . If they are connected in series, what supply voltage should be used? Find supply voltage, the current and total power dissipated.

A	72V ,0.06A,2.16W	B	108V ,0.09A,3.24W
C	36V ,0.03A,108W	D	18V ,0.015A,0.54W
Answer			

Ref 12

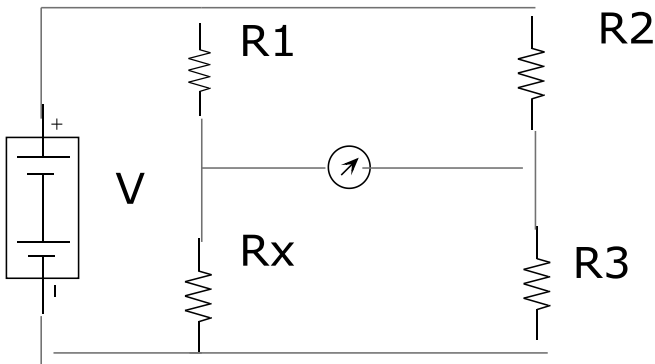
A circuit is fed with a 9V supply but a 4V ground potential is required at the base of a transistor. If this voltage is to be derived from 12 K Ω resistor connected to ground. Calculate the value of second resistor forming potential divider.

A	30K Ω	B	20K Ω
C	15K Ω	D	5K Ω
Answer			

Ref 13

Find RX

If $R_1=1000 \Omega$, $R_2=1000 \Omega$, $R_3=2715 \Omega$, $V= 1.5V$ at bridge balanced condition.



A	2715 Ω	B	3000 Ω
C	1000 Ω	D	2000 Ω
Answer		A	

Ref 15

A cell has emf 1.5V and internal resistance 0.5 ohm. Calculate its terminal voltage at (a) No load (b) providing 200mA current (c) when connected to a load of 8 ohm.

A	3V, 2.8V, 2.8V	B	1.5V, 1.4V, 1.41V
C	6V, 1.4V, 1.4V	D	3V, 1.4V, 1.41V
Answer			

Ref 16

A battery is made by connection 8 cells in series. Each has 1.5V and internal resistance 0.35 ohm. Calculate (a) EMF & internal resistance of battery. (b) The terminal voltage when supplying 400mA. (c) The current & terminal voltage when a load of resistance 20 ohm is connected to battery.

A	12V, 2.8 Ω , 10.11V	B	15V, 1.4 Ω , 5.1V
C	12V, 2.8 Ω , 5.1V	D	6V, 2.8 Ω , 10.11V
Answer			