



WORKSHEET

Full marks 33

1 Key words [4]

ampere coulomb electromotive force kilowatt-hours nichrome ohms resistance
tungsten volts watts

2 Label the diagram [2]

1. _____ 2. _____
3. _____ 4. _____

3 Multiple choice **[5]**

i. Which wire has the **largest** resistance? (All are copper, at room temperature.) [1]

- a. short and thick b. short and thin
c. long and thick d. long and thin



[2]

[2]

[4]

Write a long answer to the following question.

Three resistors R_1 , R_2 and R_3 are connected in series to a cell. Draw the circuit, and show that their total resistance is $R = R_1 + R_2 + R_3$.

[illegible]

[6]

Solve the following problems. Show your working.

[2]

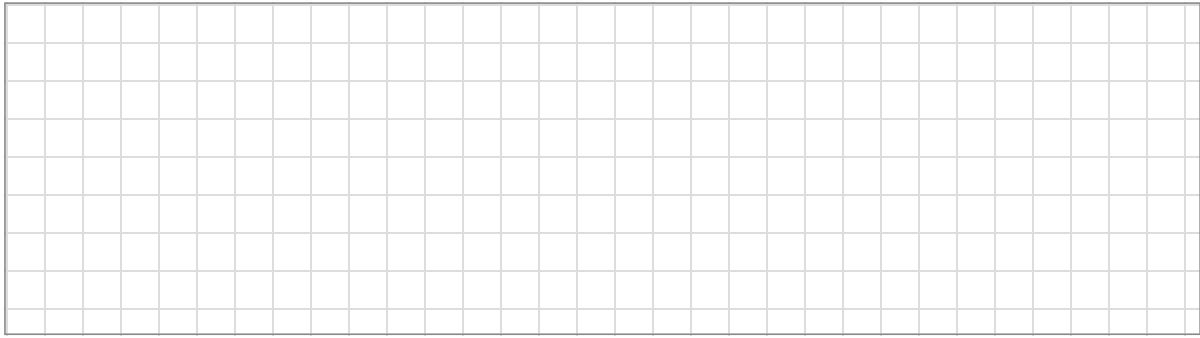
[illegible]

Answer:

[4]

Find the monthly electricity consumption (30 days). If one unit costs Rs 10, what is the monthly bill?





Answer: _____

8 Think

[2]

Think, then answer.

Why does the element of an electric heater glow red-hot, while the cable that brings the current to it hardly gets warm?

9 Activity: A pencil lead as a resistor (Activity 11.4)

(not marked)

Clip two crocodile clips to the ends of a pencil lead, and connect it in a circuit with an ammeter, with a voltmeter across the lead. Read V and I with one cell, then two. Slide one clip to the middle of the lead and repeat.

Length between the clips, cells	P.d. V (V)	Current I (A)	$V \div I$ (Ω)
full length, 1 cell			
full length, 2 cells			
half length, 1 cell			
half length, 2 cells			

Does $V \div I$ change with the number of cells? With the length?

