Worksheet IV

Making cold coffee

Cups of coffee	1	2	3	4	10
Ice cubes	4	8	…	…	…

Worksheet V

V	I	$\frac{V}{I}$
20	4	….
25	5	….

$$\left(\frac{V}{I} = R \; \text{. . . . . ohm's law} \right)$$

Definition:

If $\frac{a}{b} = \frac{c}{d}$ then the numbers a,b,c,d are in proportion

a, b, c and d are respectively first, second, third and fourth proportional.

a and d are called extremes and b and c are called means.

If $\frac{a}{b} = \frac{c}{d} = \frac{e}{f} = \cdots$ then a, b, c, d, e, f, . . . said to be in proportion

- **Continued proportion**

Worksheet IV

Complete the table.

Sr. no.	p	q	r	$\frac{p}{q}$ in the simplest form	$\frac{q}{r}$ in the simplest form
1	1	2	6		
2	4	16	64		
3	9	12	16		
4	3	5	6		

What do you observe in first and fourth example?

What do you observe in second and third example?

In second and third example $\frac{p}{q} = \frac{q}{r}$

In such cases we can say p, q, r are in continued propotion.

Definition:

a, b and c are said to be in continued proportion if $\frac{a}{b} = \frac{b}{c}$ **i.e.** $b^2 = ac$

Here b is called as geometric mean (mean proportional) of a and c.

Generalization:

a, b, c, d, e, . . . are said to be in continued proportion

if $\frac{a}{b} = \frac{b}{c} = \frac{c}{d} = \frac{d}{e} = \ \ldots$

Activity

12 is the mean proportional of a and c as well as b and d. Complete the puzzle using different values of a, b, c, d.

	a	
b	12	d
	c	

- **k-method**

This method is simple method to solve some problems on equal ratios. In this method we assume each ratio is equal to k. Therefore the method is called as k-methods.