CLASSIC STUDY ONE OF THE BEST ONLINE STUDY PLAT FORM

Name of Student	Class	Subject	Board	Chapter
	10th	Mathematics	FB	3
Date :		Objective		Teacher Remarks

Section - A

Q. No.1:- Circle the correct option. Each part carries one mark.

i	Types of variation are:							
a	One	b	Two	c	Three	d	Four
ii	Y varies directly as x. i.e.							
A	$y \propto \frac{1}{x}$	b	$y \propto x$	c	$y = x$	d	None of these
iii	Which quantity has no unit?							
a	Energy	b	Mass	c	Work	d	Ratio
iv	If a:b = c:d then the invertendo property is:							
a	a:c = b:d	b	b:a = d:c	c	Both a, b	d	None of these
v	If $\frac{a}{b} = \frac{c}{d} = k$ then c =?							
a	c = ak	b	c = k	c	c = dk	d	None of these
vi	In the ratio a:b, a is called as:							
a	Consequent	b	Antecedent	c	Extreme	d	Mean
vii	If a:b = c:d ⇒ ?							
a	ad = bc	b	ab = cd	c	ac = bd	d	All of these
viii	If y∝x then							
a	$y = \frac{k}{x}$	b	$y = \frac{x}{k}$	c	$y = kx$	d	$x = \frac{k}{y}$
ix	If three quantities a, b, c are related as a:b::b:c then b is called:							
a	Continued proportion	b	Third proportion	c	Fourth proportion	d	Mean proportion
x	Value of x in 60:90::20:x is:							
a	10	B	20	c	30	d	40
xi	If $u \propto v^2$ then:							
a	$u = v^2$	b	$u = kv^2$	c	$uv^2 = k$	d	$uv^2 = 1$
xii	Find x in 4:x::5:15:							
a	$\frac{75}{4}$	b	$\frac{4}{3}$	c	$\frac{3}{4}$	d	12
xiii	The fourth proportion ω of x:y::v:ω is:							
a	$\frac{xy}{v}$	b	$\frac{vy}{x}$	c	xyv	d	$\frac{x}{vy}$
xiv	If a:b = c:d then alternendo property is:							
a	$\frac{a}{x} = \frac{b}{y}$	b	$\frac{a}{b} = \frac{x}{y}$	c	$\frac{a+b}{b} = \frac{x+y}{y}$	d	$\frac{a-b}{x} = \frac{x-y}{y}$
xv	If $y^2 \propto \frac{1}{x^3}$ then							
a	$y^2 = \frac{1}{x^3}$	b	$y^2 = \frac{k}{x^3}$	c	$y^2 = x^2$	d	$y^2 = kx^3$

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Section - B

Q. No.2:- Answer the following twelve short questions. All questions carry equal marks.

1. If 3(4x-5y) = 2x-7y find x:y.

2. Find x in 8-x:11-x::16-x:25-x.

3. If a;b = 7:6 Find the value of 3a+5b:7b-5a.

4. Find the cost of 15 kg of sugar if 7 kg costs Rs 560.

5. $m \propto \dfrac{1}{n^3}$ and m = 2, n = 4 find m when n = 6.

6. Find fourth proportion of p^3+q^3, p^2-q^2, p^2-pq+q^2.

7. Prove that a:b = c:d if $\dfrac{2a+9b}{2a-9b} = \dfrac{2c+9d}{2c-9d}$.

8. If ω varies inversely as the cube of μ and $\omega = 5$ when u = 3 find ω when $\mu = 6$.

9. If a:b = c:d then show that $\dfrac{a}{b} = \sqrt{\dfrac{a^2+c^2}{b^2+d^2}}$ by k.Method.

10. Define joint variation?

11. Write componendo-dividendo theorem?

12. Define inverse variation?

13. Find mean proportion of 20, 45.

14. Find p if 2p+5:3p+4 and 3:4 are equal.

15. If $\dfrac{a^2+b^2}{a^2-b^2} = \dfrac{ac+bd}{ac-bd}$ show that a:b = c:d .

Section – C

Note: Attempt only three questions. All question carry equal marks.

Q. No.3:-Solve $\dfrac{\sqrt{x^2+8p^2}-\sqrt{x^2-p^2}}{\sqrt{x^2+8p^2}+\sqrt{x^2-p^2}} = \dfrac{1}{3}$ by componendo-dividendo theorem.

Q. No.4:-The surface of radius r, and $s = 16\pi$ when $r = 2$, find r when $s = 36\pi$.

Q. No.5:-if $\frac{a}{b} = \frac{c}{d} = \frac{e}{f}$ show that $\frac{ac}{bd} + \frac{cd}{df} + \frac{ea}{fb} = \frac{a^2}{b^2} + \frac{c^2}{d^2} + \frac{e^2}{f^2}$.

Q. No.6:-if 2 is added in each number of the ratio 3:4 we get a new ratio 5:6 find the number.