WEEKLY EXAM 2080/09/08			
	ect: Mathematics e: 1:30 hrs.	GRADE XII SET A	F.M.: 40 P.M.: 20
		Group 'A'	[1×5=
	The sum of all odd nur		
	a) 7500 b) 74	c) 7560	d) 7600
	Cramer's rule is applica	able only to get an unic	que solution when
	a) $\Delta_z \neq 0$ b) Δ_z	$\chi \neq 0$ c) $\Delta \neq 0$	d) $\Delta_y \neq 0$
	In any triangle ABC, the	he sum of the sine of a	ngles is equal to
	a) $\frac{R}{S}$ b) $\frac{R}{2S}$	$\frac{S}{S}$	d) $\frac{S}{S}$
	D 2.		
	The differential equa	tion of $y = mx + c$	is (m and c are arbitrar
	constants)	1	
	a) $\frac{d^2y}{dx^2} = 0$		+ c
	CIA	d) $ydx - xdy$	
	What is the vector per	pendicular to both the	vectors 1- j and 1?
	a) i b) -	ĵ c) ĵ	d) k
		Group 'B'	[7×5=3
5.	(a) How many diag	onals are there in a poly	에서 살아보다 가장 그리고 아니는
_ ~			tem of linear equations
3	3x - 2y = 3, -4	y + 6x = 9	[3
2	a) State the princip	ole of mathematical indi	uction. [2
2	Using principle	of Induction Prove that	uction. [2 $4^n - 1$ is divisible by 3. [3]
8.	8. a) Solve the triangle if $a = 2$, $b = \sqrt{6}$ and $c = \sqrt{3} - 1$.		
	b) Using sine law	prove that: $\tan \frac{1}{2} (C-A)$	$=\frac{c-a}{c+a}.\cot\frac{B}{2}.$
-		2 (0 11)	c + a. cot 2.
9.	a) Prove that:	- 2 :6- : 1: 1 0	
	$1) 1 + \omega + \omega^{2n}$	= 3, if n is multiple of = 0, if n is not multiple	3 [2
	h) What do you m	ean by argument of sa-	of 3, $n \in \mathbb{N}$ [2 nplex number?
	what do you in	ean by argument of con	iplex number?

- 10. a) Find the parametric equations of the circle $x^2 + y^2 = 25$. b) If $|\overrightarrow{a} + \overrightarrow{b}| = |\overrightarrow{a} - \overrightarrow{b}|$, prove that \overrightarrow{a} is perpendicular to \overrightarrow{b} .
- Prove that the points A, B, C with position vectors \overrightarrow{a} , \overrightarrow{b} , \overrightarrow{c} are collinear if and only if $(\overrightarrow{b} \times \overrightarrow{c}) + (\overrightarrow{c} \times \overrightarrow{a}) + (\overrightarrow{a} \times \overrightarrow{b}) = \overrightarrow{0}$.
- Differentiate between general and particular solution in [1]
- Evaluate $\int \frac{x^2}{(x+2)(x+3)^2} dx$ [4]

 Solve: $\frac{dy}{dx} = \frac{1+y^2}{1+y^2}$
 - Find the differential equation of the curve $y = ae^x + be^{-x}$. [3]

so Best of Luck or

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