	Chapter - 12
	Area of Parallelograms and Triangles
	Notes:
	*A Diagonal of a parallelograme divides into two triangles of equal
	mua.
	*Two conquient figures have equal area but the converse is always
	area but the converse is always
	MO DILLE MAN MO A MANA
	Farallelograms on the same base and
	the same parallels are
	post will.
+	* Triangles on the same base of
+	and between the same panallels
+	are equal in lengtharea.
-	*If a triangle and a parallelogram are on the same base and
	are on the same base and
4	between the same parallel, then the
	area of triangle is equal to
	half the area of parallelogram
	* The Diagonals of a parallelogram
	divides it into four triangles of
	equal area

Theorem: 1)
Parallelograms on the same base and between the same parallels are equal in area

	liven
	Given,
	Two light ABCD and ABEF are on the same base AB and between the parallels AB and FC
	same base AB and between the Daville's AR and
	FC.
	To prove: ar Cligm ABCD) = ar (ligm ABEF)
	SEL LOV GOVE
	In A ADF and ABCE
	AD - BC (Gn) 19 19 COM
9	AF - Br ()
eanine-	AF = BF (gn)
	1-12 (. AD IIBC and AF IIBE)
97	· · · A ADF \(\text{ABCF} \(\text{By SAS} \)
	⇒ ar (AADF) = an (ABCE) > 0
	Now,
	ar (lign ABCD) = ar ([ABED) + ar (A BEC)
	= or (DABED) + or (DADE) (using 0)
	= ar (Ilgm ABEF)
	: ar (Ilgm ABCD) = ar (Ilgm ABEF)
	Hence proved

Theorem: 2

If a triangle and a parallelognom are on the same base and between the same parallel then the area of triangle is equal to half the area of parallelogram.

I gm ABCD and AVAB

are on the same base AB and between the

Same parallels AB and VC	1.371
To prove:	- A. I. T. P.
De C	1
ar (AVAB) = 1 an (Ilgm ABCD)	- and a hardenium
Construction:	1/2120 11
Draw VM 1 AB	
Extend AB upto L	
Doron Cl I OI	
Draw CL I AL and AL II) Proof:	
0	9
ar (A VAB) - 1 XAB XVM(!	VM-CI
Cape us 12 and A Ra gring	
THE CHARTEN	-
OUR (A VAB) = 1 XAB XVM (- 1 XAB XCL	731
ar CAVAB) = 1 ar CHABCD)	- CONV
an (MABCD)	111720
Hence proved	
	The state of the s