Ques No.	Question
1	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.1 - Q 1** Which of the following figures lie on the same base and between the same parallels. In such a case, write the common base and the two parallels. Watch Free Video Solution on Doubtnut
2	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.2 - Q 1** In Fig. 9.15, ABCD is a parallelogram, $AE \perp DC$ and $CF \perp AD$. If $AB\ =\ 16\ cm$, $AE\ =\ 8\ cm$ and $CF\ =\ 10\ cm$, find AD. Watch Free Video Solution on Doubtnut
3	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.2 - Q 2** If E,F,G and H are respectively the mid-points of the sides of a parallelogram ABCD, show that $ar(EFGH)$ $= \dfrac{1}{2} ar(ABCD)$ Watch Free Video Solution on Doubtnut
4	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.2 - Q 3** P and Q are any two points lying on the sides DC and AD respectively of a parallelogram ABCD. Show that $ar\ (APB)\$ $=\ ar\ (BQC)$. Watch Free Video Solution on Doubtnut
	NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.2 - Q 4

5	In Fig. 9.16, P is a point in the interior of a parallelogram ABCD. Show that (i) $ar(APB)$ $+ ar(PCD)$ $= \dfrac{1}{2}ar(ABCD)$ (ii) $ar(APD)$ $+ ar(PBC)$ $= ar(APB)$ $+ ar(PCD)$ ▶ Watch Free Video Solution on Doubtnut

6	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.2 - Q 5** In Fig. 9.17, PQRS and ABRS are parallelograms and X is any point on side BR. Show that (i) $ar(PQRS)$ $= ar(ABRS)$ (ii) $ar(AXS)\backslash$ $= \dfrac{1}{2}ar(PQRS)$ ▶ Watch Free Video Solution on Doubtnut
7	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.2 - Q 6** A farmer was having a field in the form of a parallelogram PQRS. She took any point A on RS and joined it to points P and Q. In how many parts the fields is divided? What are the shapes of these parts? The farmer wants to sow wheat and pulses in equal portions of the field separately. How should she do it?

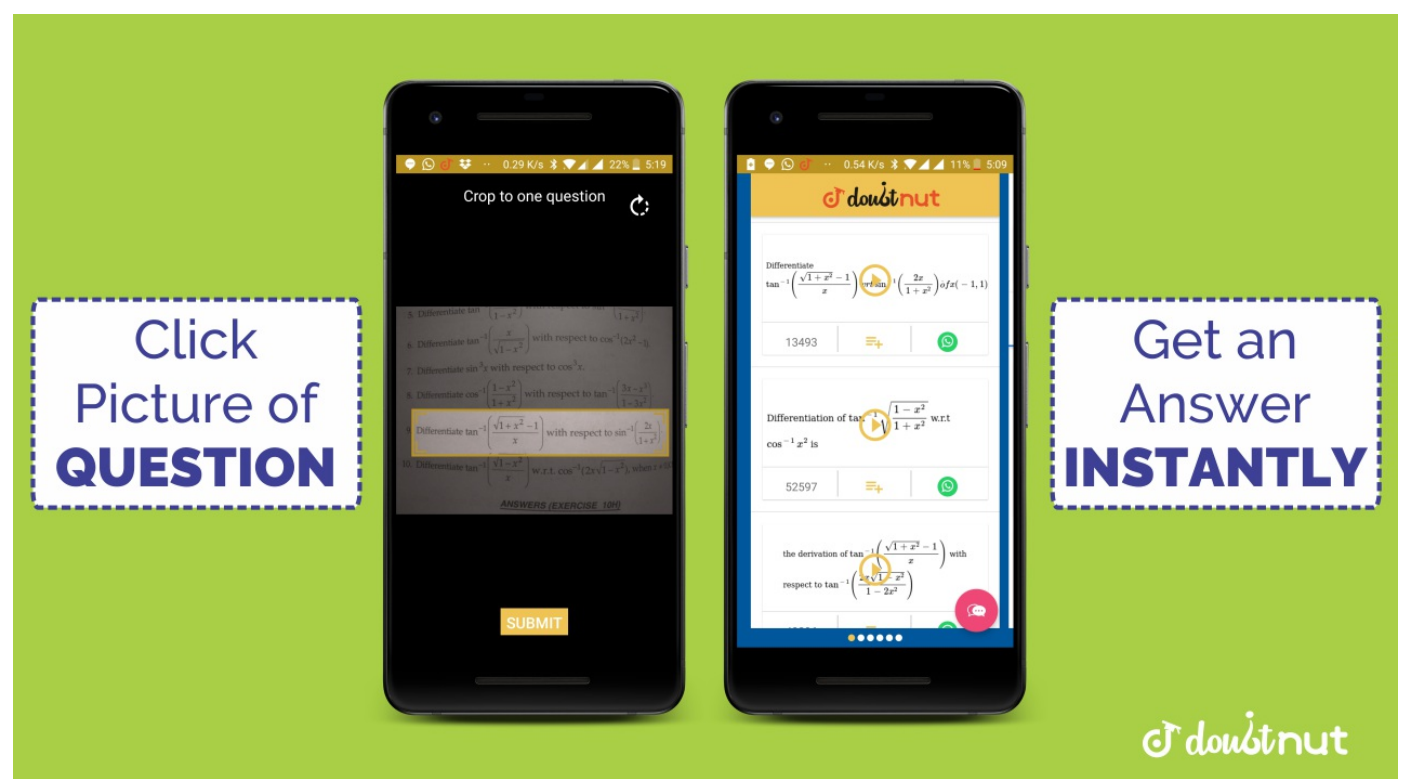| 8	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 1** In Fig.9.23, E is any point on median AD of a ΔABC . Show that $ar\backslash\ (ABE)\backslash$ $=\backslash\ ar\backslash\ (ACE)$. ▶ Watch Free Video Solution on Doubtnut
9	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 2** In a triangle ABC, E is the mid-point of median AD. Show that $ar\backslash\ (BED)$ $=\dfrac{1}{4}ar\backslash\ (ABC)$ ▶ Watch Free Video Solution on Doubtnut
10	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 3** Show that the diagonals of a parallelogram divide it into four triangles of equal area. ▶ Watch Free Video Solution on Doubtnut
11	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 4** In Fig. 9.24, ABC and ABD are two triangles on the same base AB. If line- segment CD is bisected by AB at O, show that ▶ Watch Free Video Solution on Doubtnut

12	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 5** D, E and F are respectively the mid-points of the sides BC, CA and AB of a ΔABC. Show that (i) BDEF is a parallelogram. (ii) $ar\backslash\ (DEF)$ $$= \frac{1}{4} ar\backslash\ (ABC)$$ (iii) $ar\backslash\ (BDEF)$ $$= \frac{1}{2} ar\backslash\ (ABC)$$ ▶ Watch Free Video Solution on Doubtnut
13	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 6** In Fig. 9.25, diagonals AC and BD of quadrilateral ABCD intersect at O such that $OB\backslash\ =\backslash\ OD$. If $AB\backslash\ =\backslash\ CD$, then show that: (i) $ar\backslash\ (DOC)\backslash$ $$=\backslash\ ar\backslash\ (AOB)$$ (ii) $ar\backslash\ (DCB)\backslash$ $$=\backslash\ ar\backslash\ (ACB)$$ (iii) `D A"\ "||"\ "C ▶ Watch Free Video Solution on Doubtnut
14	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 7** D and E are points on sides AB and AC respectively of ΔABC such that $ar\backslash\ (DBC)\backslash$ $$=\backslash\ ar\backslash\ (EBC)$$. Prove that $DE\backslash\ ||\backslash\ BC$. ▶ Watch Free Video Solution on Doubtnut
15	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 8** XY is a line parallel to side BC of a triangle ABC. If $BE\backslash\ ||\backslash\ AC$ and $CF\backslash\ ||\backslash\ AB$ meet XY at E and F respectively, show that $ar\backslash\ (ABE)\backslash$ $$=\backslash\ ar\backslash\ (ACF)$$ ▶ Watch Free Video Solution on Doubtnut

16	 The side AB of a parallelogram ABCD is produced to any point P. A line through A and parallel to CP meets CB produced at Q and then parallelogram PBQR is completed. Show that $ar\ (ABCD)\ = \ ar\ (PBQR)$. ▶ Watch Free Video Solution on Doubtnut
17	 Diagonals AC and BD of a trapezium ABCD with $AB \| DC$ intersect each other at O. Prove that $ar\ (AOD)\ = \ ar\ (BOC)$. ▶ Watch Free Video Solution on Doubtnut
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18	 In Fig. 9.27, ABCDE is a pentagon. A line through B parallel to AC meets DC produced at F. Show that (i) $ar\ (ACB)\ = \ ar\ (ACF)$ (ii) $ar\ (AEDF)\ = \ ar\ (ABCDE)$ ▶ Watch Free Video Solution on Doubtnut

|	
19	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 12** A villager Itwaari has a plot of land of the shape of a quadrilateral. The Gram Panchayat of the village decided to take over some portion of his plot from one of the corners to construct a Health Centre. Itwaari agrees to the above proposal with the condition that he should be given equal amount of land in lieu of his land adjoining his plot so as to form a triangular plot. Explain how this proposal will be implemented. ▶ Watch Free Video Solution on Doubtnut
20	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 13** ABCD is a trapezium with $AB\ \|\ \|\ DC$. A line parallel to AC intersects AB at X and BC at Y. Prove that $ar\ (ADX)\ =\ ar\ (ACY)$. ▶ Watch Free Video Solution on Doubtnut
21	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 14** In Fig.9.28, $AP\ \|\|\ BQ\ \|\|\ CR$. Prove that $ar\ (AQC)\ =\ ar\ (PBR)$. ▶ Watch Free Video Solution on Doubtnut
22	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 15** Diagonals AC and BD of a quadrilateral ABCD intersect at O in such a way that $ar(AOD) = ar(BOC)$. Prove that ABCD is a trapezium. ▶ Watch Free Video Solution on Doubtnut
23	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.3 - Q 16** In Fig.9.29, $ar\ (BDP)\ =\ ar\ (ARC)$ and

$ar\ (BDP)\$
$=\ ar\ (ARC)$
. Show that both the quadrilaterals ABCD and DCPR are trapeziums.

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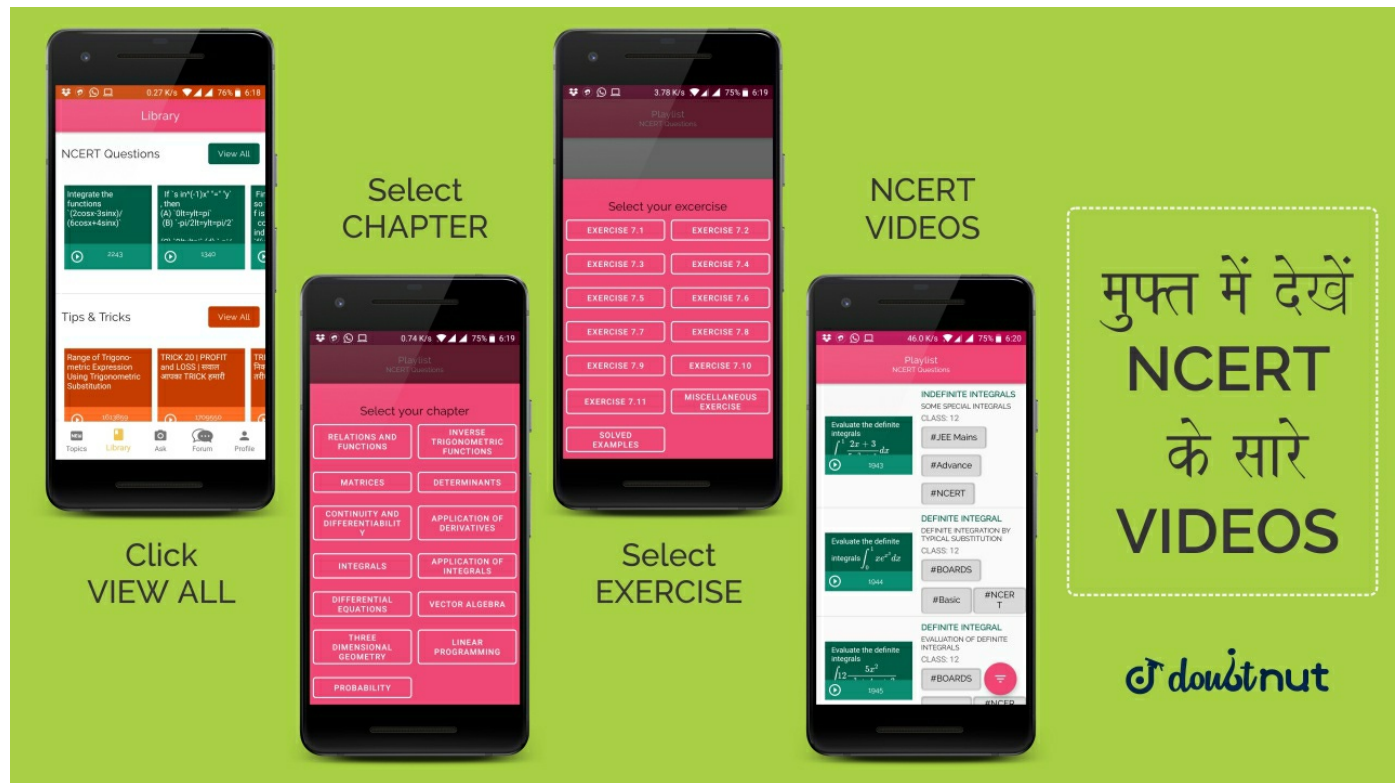
NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 1

Parallelogram ABCD and rectangle ABEF are on the same base AB and have equal areas. Show that the perimeter of the parallelogram is greater than that of the rectangle.

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NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 2

In Fig. 9.30, D and E are two points on BC such that
$BD\ =\ DE\$
$=\ EC$
. Show that
$ar\ (ABD)\$
$=\ ar\ (ADE)\$
$=\ ar\ (AEC)$
. Can you now answer the question that you have left in the Introduction of this chapter, whether the field of Budha has been actually divided into three parts of equal area ?

26	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 3** In Fig. 9.31, ABCD, DCFE and ABFE are parallelograms. Show that $ar\ (ADE)$ $=\ ar(BCF)$. ▶ Watch Free Video Solution on Doubtnut
27	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 4** In Fig. 9.32, ABCD is a parallelogram and BC is produced to a point Q such that $AD\ =\ CQ$. If AQ intersect DC at P, show that $ar\ (BPC)\ =\ ar\ (DPQ)$. ▶ Watch Free Video Solution on Doubtnut
28	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 5** In Fig.9.33, ABC and BDE are two equilateral triangles such that D is the mid-point of BC. If AE intersects BC at F, show that (i) $ar\ (BDE)$ $=\frac{1}{4}ar\ (ABC)$ (ii) $ar(BDE)=\frac{1}{2}ar\ (BAE)$ (iii) $ar\ (ABC)$ $=\ 2ar\ (BEC)$ ▶ Watch Free Video Solution on Doubtnut
29	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 6** Diagonals AC and BD of a quadrilateral ABCD intersect each other at P. Show that $ar\ (APB)\ \times\ ar\ (CPD)\ =\ ar\ (APD)\ \times\ ar\ (BPC)$.

NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 7

P and Q are respectively the mid-points of sides AB and BC of a triangle ABC and R is the mid-point of AP, show that (i)
$$ar \ (PRQ)$$
$$= \frac{1}{2} ar(ARC)$$
(ii)
$$ar \ (RQC)$$
$$= \frac{3}{8} ar \ (ABC)$$
(iii)
$$ar \ (PBQ)$$
$$= ar \ (ARC)$$

NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - EXERCISE 9.4 - Q 8

ABC is a right triangle right angled at A. BCED, ACFG and ABMN are squares on the sides BC, CA and AB respectively. Line segment $AX \perp DE$ meets BC at Y. Show that: (i) $\Delta MBC \cong \Delta ABD$ (ii) `a r"\ "(B Y X D)"\ "="\ "2"\ "`

NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - SOLVED EXAMPLES - Q 1

In Fig. 9.13, ABCD is a parallelogram and EFCD is a rectangle.Also, $AL \perp DC$. Prove that (i)

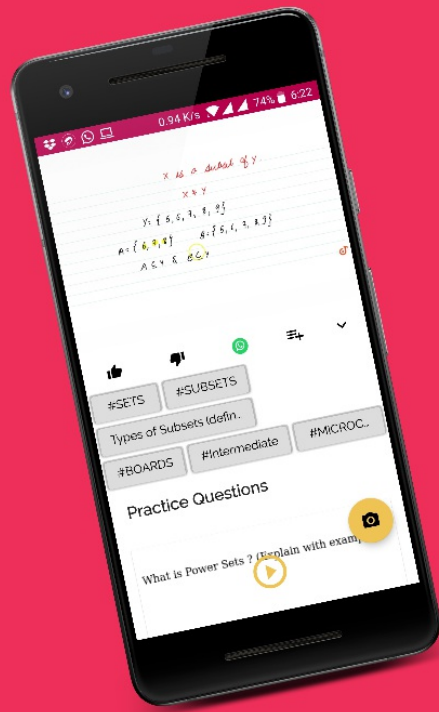|	
32	$ar\ (ABCD)\$ $=\ ar\ (EFCD)$ (ii) $ar\ (ABCD)\$ $=\ DC\$ $\times\ AL$ ▶ Watch Free Video Solution on Doubtnut
33	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - SOLVED EXAMPLES - Q 2** If a triangle and a parallelogram are on the same base and between the same parallels, then prove that the area of the triangle is equal to half the area of the parallelogram. ▶ Watch Free Video Solution on Doubtnut
34	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - SOLVED EXAMPLES - Q 3** Show that a median of a triangle divides it into two triangles of equal areas. ▶ Watch Free Video Solution on Doubtnut
35	**NCERT - CLASS 9 - CHAPTER 9 AREAS OF PARALLELOGRAMS AND TRIANGLES - SOLVED EXAMPLES - Q 4** In Fig. 9.22, ABCD is a quadrilateral and $BE\ ||\ AC$ and also BE meets DC produced at E. Show that area of ΔADE is equal to the area of the quadrilateral ABCD. ▶ Watch Free Video Solution on Doubtnut
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