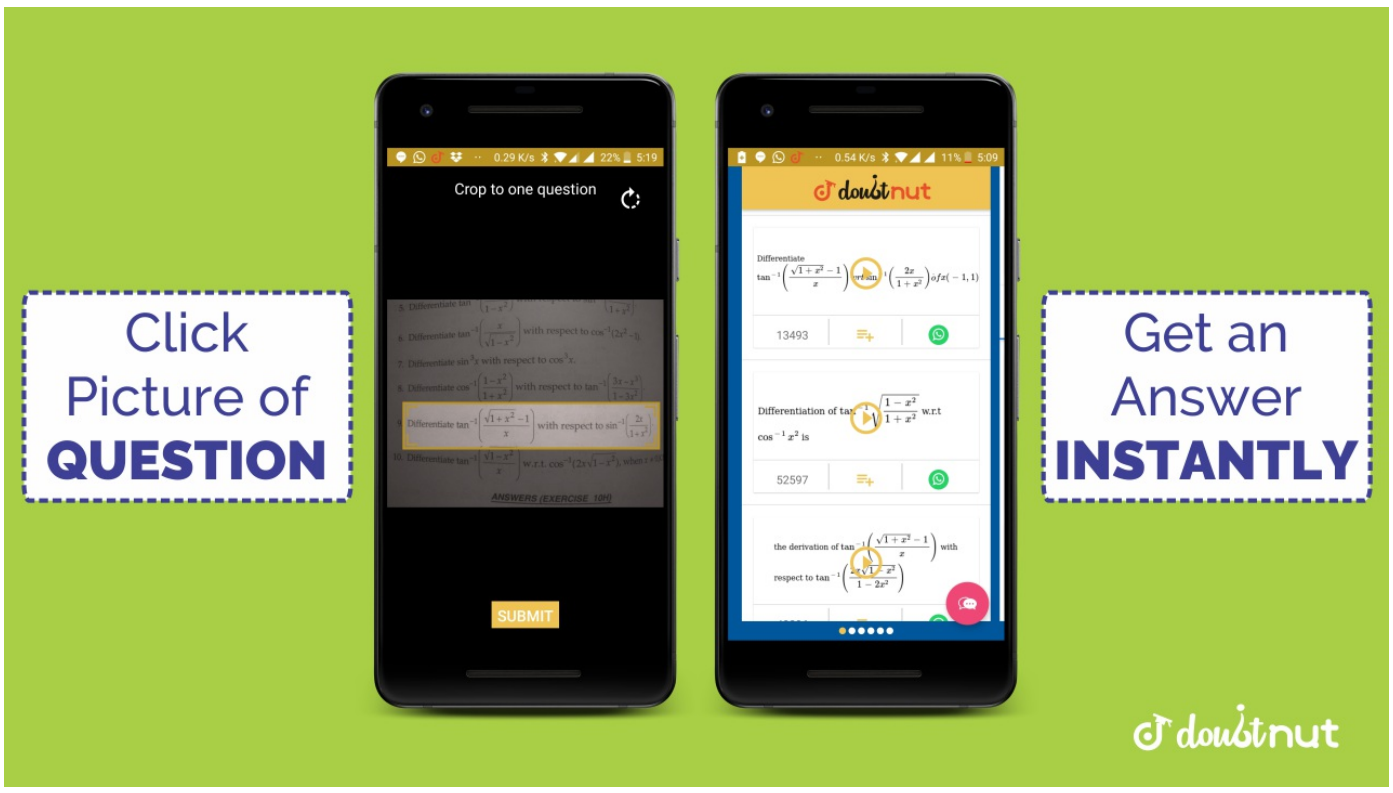
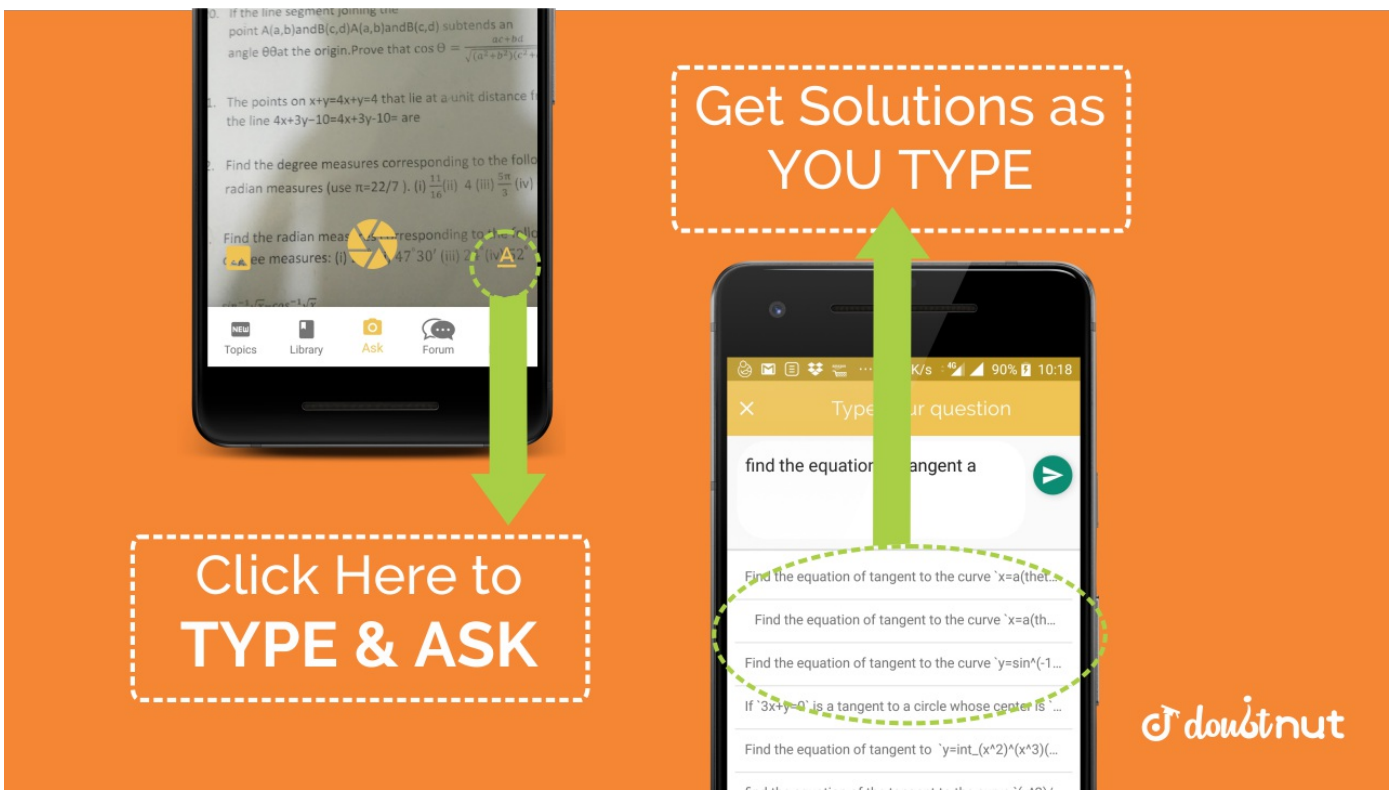
NCERT MATHS SOLUTIONS

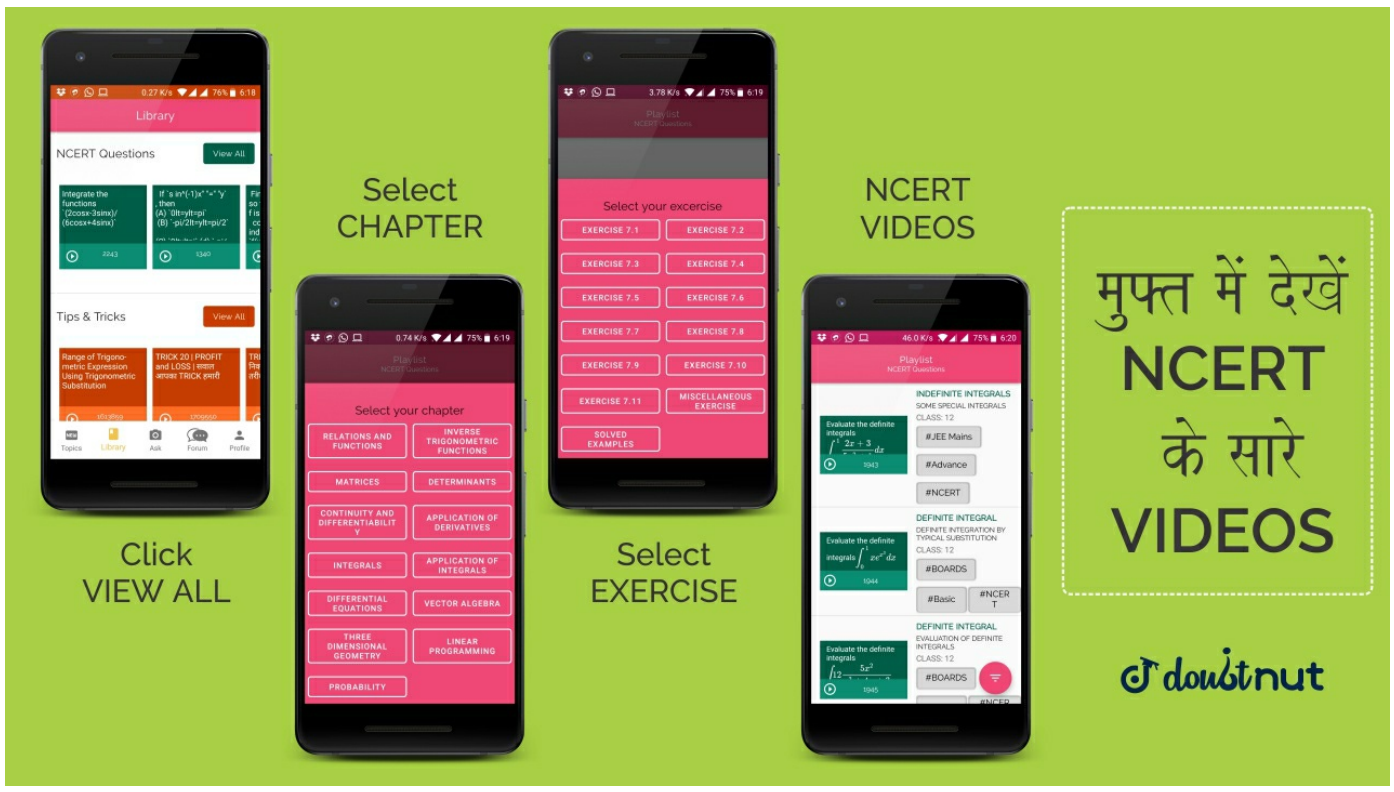
Class - 11 || INTRODUCTION TO THREE DIMENSIONAL GEOMETRY

Ques No.	Question
1	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.1 - Q 1** A point is on the x–axis. What are its y–coordinate and z–coordinates? Watch Free Video Solution on Doubtnut
2	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.1 - Q 2** A point is in the XZ–plane. What can you say about its y–coordinate? Watch Free Video Solution on Doubtnut
3	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.1 - Q 3** Name the octants in which the following points lie: $(1, 2, 3)$, $(4, 2, 3)$, $(4, 2, 5)$, $(4, 2, 5)$, $(4, 2, 5)$, $(4, 2, 5)$, $(3, 1, 6)$,$(2, 4, 7)$. Watch Free Video Solution on Doubtnut
4	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.1 - Q 4** Fill in the blanks: (i) The x–axis and y–axis taken together determine a plane known as____ (ii) The coordinates of points in the XY–plane are of the form_____ (iii) Coordinate planes divide the space into ____ octants____ Watch Free Video Solution on Doubtnut
5	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.2 - Q 1** Find the distance between the following pairs of points: (i) $(2, 3, 5)$ and $(4, 3, 1)$ (ii) $(3, 7, 2)$ and $(2, 4, 1)$ (iii) $(1, 3, 4)$ and $(1, 3, 4)$ (iv) $(2, 1, 3)$ and $(2, 1, 3)$. Watch Free Video Solution on Doubtnut

6	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.2 - Q 2** Show that the points $(2, \quad 3, \quad 5)$, $(1, \quad 2, \quad 3)$ and $(7, \quad 0, \quad 1)$ are collinear. Watch Free Video Solution on Doubtnut
7	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.2 - Q 3** Verify the following: (i) $(0, \quad 7, \quad 10)$, $(1, \quad 6, \quad 6)$ and $(4, \quad 9, \quad 6)$ are the vertices of an isosceles triangle. Watch Free Video Solution on Doubtnut
8	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.2 - Q 4** Find the equation of the set of points which are equidistant from the points $(1, \quad 2, \quad 3)$ and $(3, \quad 2, \quad 1)$. Watch Free Video Solution on Doubtnut
9	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.2 - Q 5** Find the equation of the set of points P, the sum of whose distances from $A \quad (4, \quad 0, \quad 0)$ and $B \quad (\quad 4, \quad 0, \quad 0)$ is equal to 10. Watch Free Video Solution on Doubtnut
	NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.3 - Q 1

10	Find the coordinates of the point which divides the line segment joining the points $(2, 3, 5)$ and $(1, 4, 6)$ in the ratio (i) $2 : 3$ internally, (ii) $2 : 3$ externally. Watch Free Video Solution on Doubtnut
11	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.3 - Q 2** Given that $P(3, 2, 4)$, $Q(5, 4, 6)$ and $R(9, 8, 10)$ are collinear. Find the ratio in which Q divides PR. Watch Free Video Solution on Doubtnut
doubtnut पढ़ना हुआ आसान	
12	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.3 - Q 3** Find the ratio in which the YZplane divides the line segment formed by joining the points $(2, 4, 7)$ and $(3, 5, 8)$. Watch Free Video Solution on Doubtnut
13	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.3 - Q 4** Using section formula, show that the points $A(2, 3, 4)$, $B(1, 2, 1)$ and $C\left(0, \frac{1}{3}, 2\right)$ are collinear. Watch Free Video Solution on Doubtnut
14	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - EXERCISE 12.3 - Q 5** Find the coordinates of the points which trisect the line segment joining the points $P(4, 2, 6)$ and $Q(10, 16, 6)$. Watch Free Video Solution on Doubtnut

15	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - MISCELLANEOUS EXERCISE - Q 1** Three vertices of a parallelogram ABCD are $A \quad (3, \quad 1, \quad 2)$, $B \quad (1, \quad 2, \quad 4)$ and $C \quad (\quad 1, \quad 1, \quad 2)$. Find the coordinates of the fourth vertex. Watch Free Video Solution on Doubtnut
16	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - MISCELLANEOUS EXERCISE - Q 2** Find the lengths of the medians of the triangle with vertices $A \quad (0, \quad 0, \quad 6)$, B $(0, \quad 4, \quad 0)$ and $(6, \quad 0, \quad 0)$. Watch Free Video Solution on Doubtnut
17	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - MISCELLANEOUS EXERCISE - Q 3** If the origin is the centroid of the triangle PQR with vertices $P \quad (2a, \quad 2, \quad 6)$, $Q \quad (\quad 4, \quad 3b, \quad 10)$ and $R(8, \quad 14, \quad 2c)$, then find the values of a, b and c. Watch Free Video Solution on Doubtnut
	
18	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - MISCELLANEOUS EXERCISE - Q 4** Find the coordinates of a point on y axis which are at a distance of $5\sqrt{2}$ from the point $P \quad (3, \quad 2, \quad 5)$. Watch Free Video Solution on Doubtnut

19	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - MISCELLANEOUS EXERCISE - Q 5** A point R with xcoordinate 4 lies on the line segment joining the points $P \quad (2, \quad 3, \quad 4)$ and $Q \quad (8, \quad 0, \quad 10)$. Find the coordinates of the point R. Watch Free Video Solution on Doubtnut
20	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - MISCELLANEOUS EXERCISE - Q 6** If A and B be the points $(3, \quad 4, \quad 5)$ and $(1, \quad 3, \quad 7)$, respectively, find the equation of the set of points P such that $PA^2 + PB^2 = k^2$, where k is a constant. Watch Free Video Solution on Doubtnut
21	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 1** In Figure, if P is (2, 4, 5), find the coordinates of F. Watch Free Video Solution on Doubtnut
22	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 2** Find the equation of the circle with center $(-3, 2)$ and radius 4 Watch Free Video Solution on Doubtnut
23	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 3** Find the distance between the points $P \quad (1, \quad 3, \quad 4)$ and $Q \quad (4, \quad 1, \quad 2)$. Watch Free Video Solution on Doubtnut
doubtnut पढ़ना हुआ आसान	

24	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 4** Show that the points $P \quad (-2, \quad 3, \quad 5)$, $Q \quad (1, \quad 2, \quad 3)$ and R $(7, \quad 0, \quad -1)$ are collinear. Watch Free Video Solution on Doubtnut
25	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 5** Are the points $A \quad (3, \quad 6, \quad 9)$, $B \quad (10, \quad 20, \quad 30)$ and $C \quad (25, \quad 41, \quad 5)$ the vertices of a right angled triangle? Watch Free Video Solution on Doubtnut
26	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 6** Find the equation of set of points P such that $PA^2 + PB^2 = 2k^2$, where A and B are the points $(3, \quad 4, \quad 5)$ and $(1, \quad 3, \quad 7)$, respectively. Watch Free Video Solution on Doubtnut
27	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 7** Find the coordinates of the point which divides the line segment joining the points $(1, 2, \quad 3)$ and $(3, \quad 4, \quad 5)$ in the ratio $2 \quad : \quad 3$ (i) internally, and (ii) externally. Watch Free Video Solution on Doubtnut
28	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 8** Using section formula, prove that the three points $(\quad 4, \quad 6, \quad 10)$, $(2, \quad 4, \quad 6)$ and $(14, \quad 0, \quad 2)$ are collinear. Watch Free Video Solution on Doubtnut
29	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 9** Find the coordinates of the centroid of the triangle whose vertices are (x_1, y_1, z_1) , (x_2, y_2, z_2) and (x_3, y_3, z_3) . Watch Free Video Solution on Doubtnut

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30	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 10** Find the ratio in which the line segment joining the points $(4, \quad 8, \quad 10)$ and $(6, \quad 10, \quad -8)$ is divided by the YZplane. Watch Free Video Solution on Doubtnut
31	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 11** Show that the points $A \quad (1, \quad 2, \quad 3)$, $B \quad (1, \quad 2, \quad 1)$, $C \quad (2, \quad 3, \quad 2)$ and $D \quad (4, \quad 7, \quad 6)$ are the vertices of a parallelogram ABCD, but it is not a rectangle. Watch Free Video Solution on Doubtnut
32	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 12** Find the equation of the set of the points P such that its distances from the points $A \quad (3, \quad 4, \quad 5)$ and B $(\quad 2, \quad 1, \quad 4)$ are equal. Watch Free Video Solution on Doubtnut
33	**NCERT - CLASS 11 - CHAPTER 12 INTRODUCTION TO THREE DIMENSIONAL GEOMETRY - SOLVED EXAMPLES - Q 13** The centroid of a triangle ABC is at the point $(1, \quad 1, \quad 1)$. If the coordinates of A and B are $(3, \quad 5, \quad 7)$ and $(1, \quad 7, \quad 6)$, respectively, find the coordinates of the point C. Watch Free Video Solution on Doubtnut