
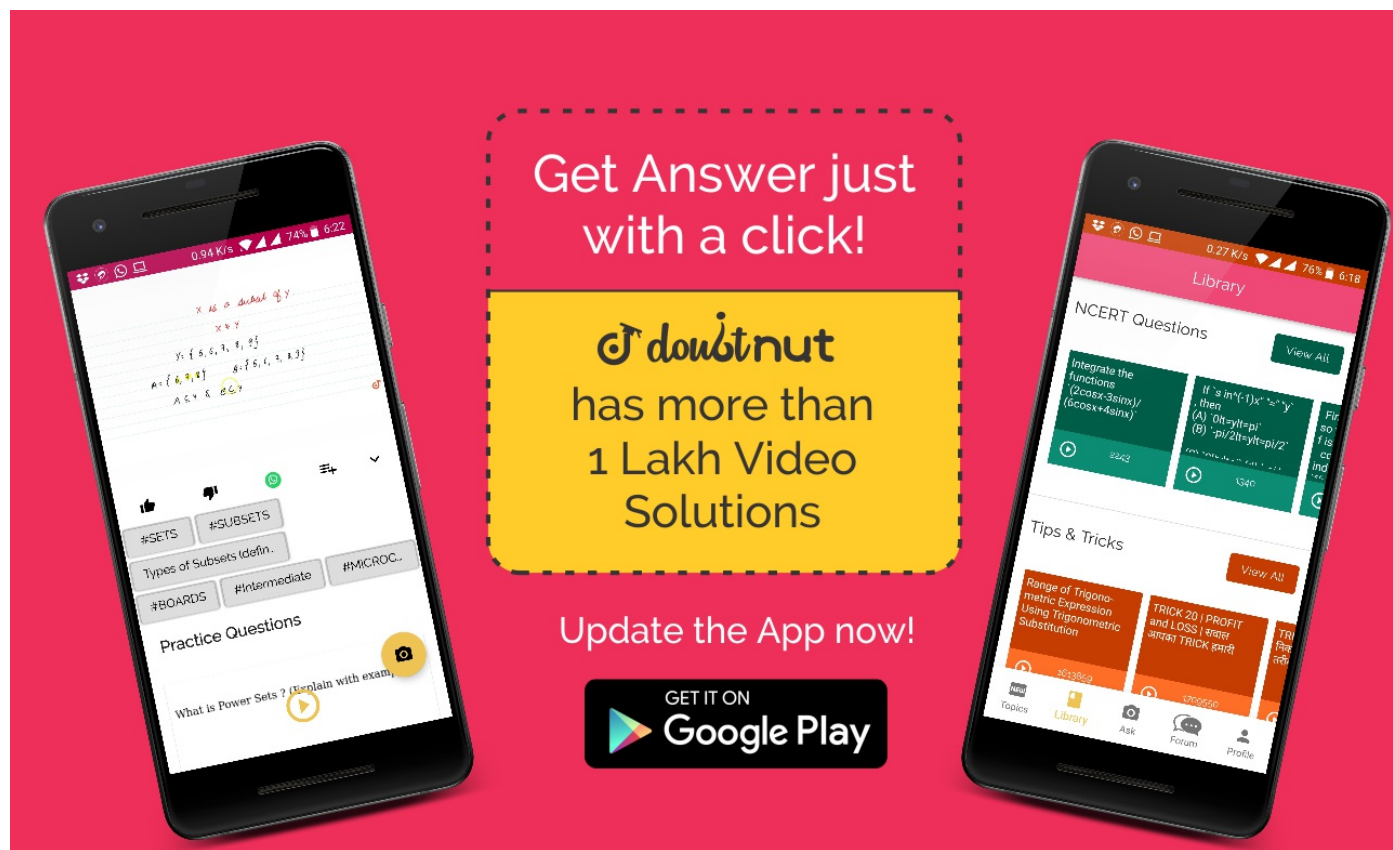


Ques No.	Question
1	<p>CLASS 10 BOARDS MATHS SOLUTIONS - 2014</p> <p>The common difference of the AP $\frac{1}{p}, \frac{1-p}{p}, \frac{1-2p}{p}, \dots$ is</p> <p>▶ Watch Free Video Solution on Doubtnut</p>
2	<p>CLASS 10 BOARDS MATHS SOLUTIONS - 2014</p> <p>PA and PB are two tangents drawn from an external point P to a circle with centre C and radius=4cm If $PA \perp PB$ then length of each tangent is</p> <p>▶ Watch Free Video Solution on Doubtnut</p>
3	<p>CLASS 10 BOARDS MATHS SOLUTIONS - 2014</p> <p>In Fig. 2, a circle with centre O is inscribed in a quadrilateral ABCD such that, it touches the sides BC, AB, AD and CD at points P, Q, R and S respectively. If AB=29 cm, AD=23 cm, $\angle B = 90^\circ$ and DS = 5 cm, then the radius of the circle (in cm)</p> <p>▶ Watch Free Video Solution on Doubtnut</p>
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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

The angle of depression of a car parked on the road from the top of the 150 m high

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tower is 30° . Find the distance of the car from the tower

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Find the probability of getting an even number when a die is thrown

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

A box contains 90 discs, numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears a prime number < 23 .

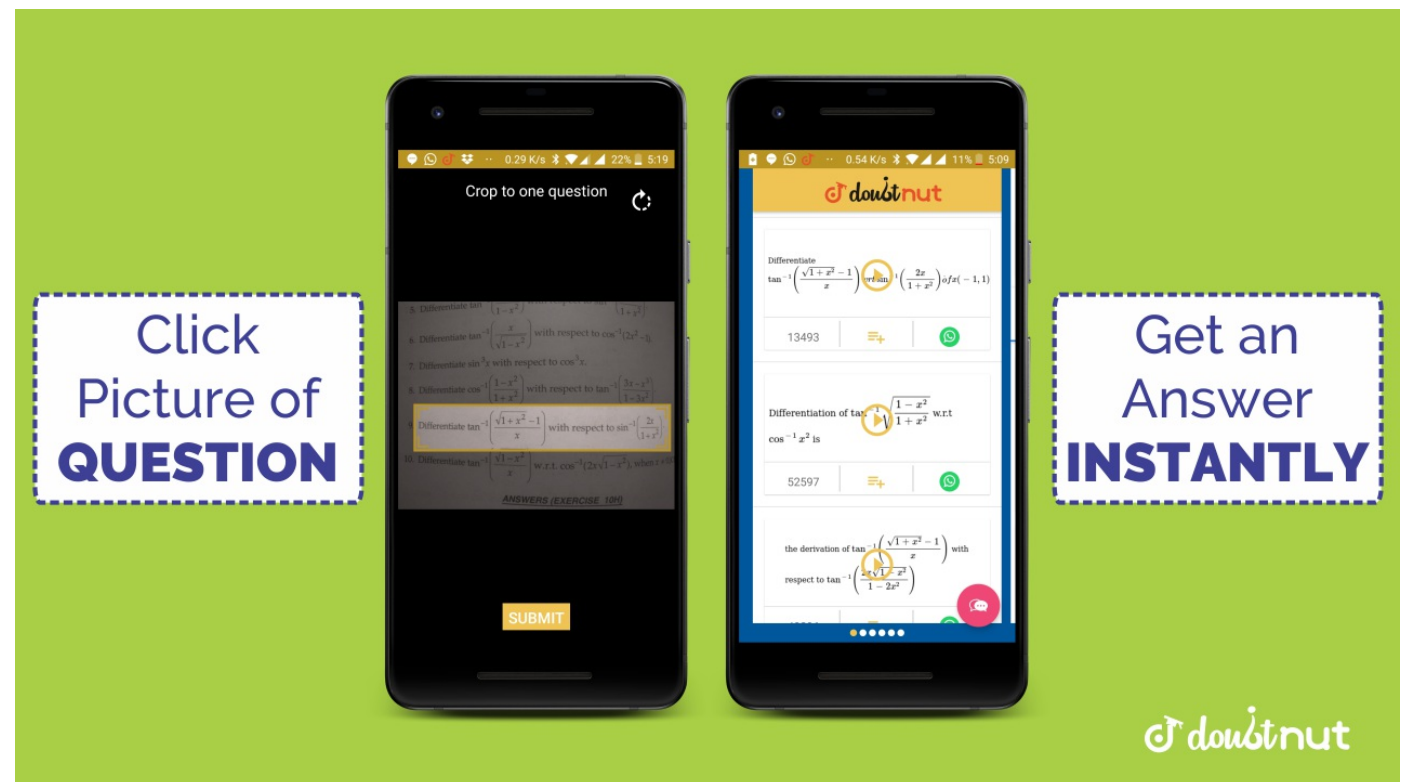
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In Fig. 3, the area of triangle ABC (in sq. units) is :

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Solve the following quadratic equation for x :

$$4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$$

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Find the sum of all three digit natural numbers, which are divisible by 7.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

In the given figure, a circle inscribed in a triangle ABC, touches the sides AB, BC and AC at points D, E and F respectively. If AB= 12 cm, BC= 8 cm and AC = 10 cm, find the lengths of AD, BE and CF.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Prove that the parallelogram circumscribing a circle is a rhombus.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

A card is drawn at random from a well-shuffled pack of 52 cards. Find the probability that it is neither a ace nor a king.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

For what value of k, are the roots of the quadratic equation $kx(x-2) + 6 = 0$ equal ?

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Find the number of terms of the AP

$$18, \frac{31}{2}, 13, \dots,$$

$$-\frac{99}{2}$$

and find the sum of all its terms.

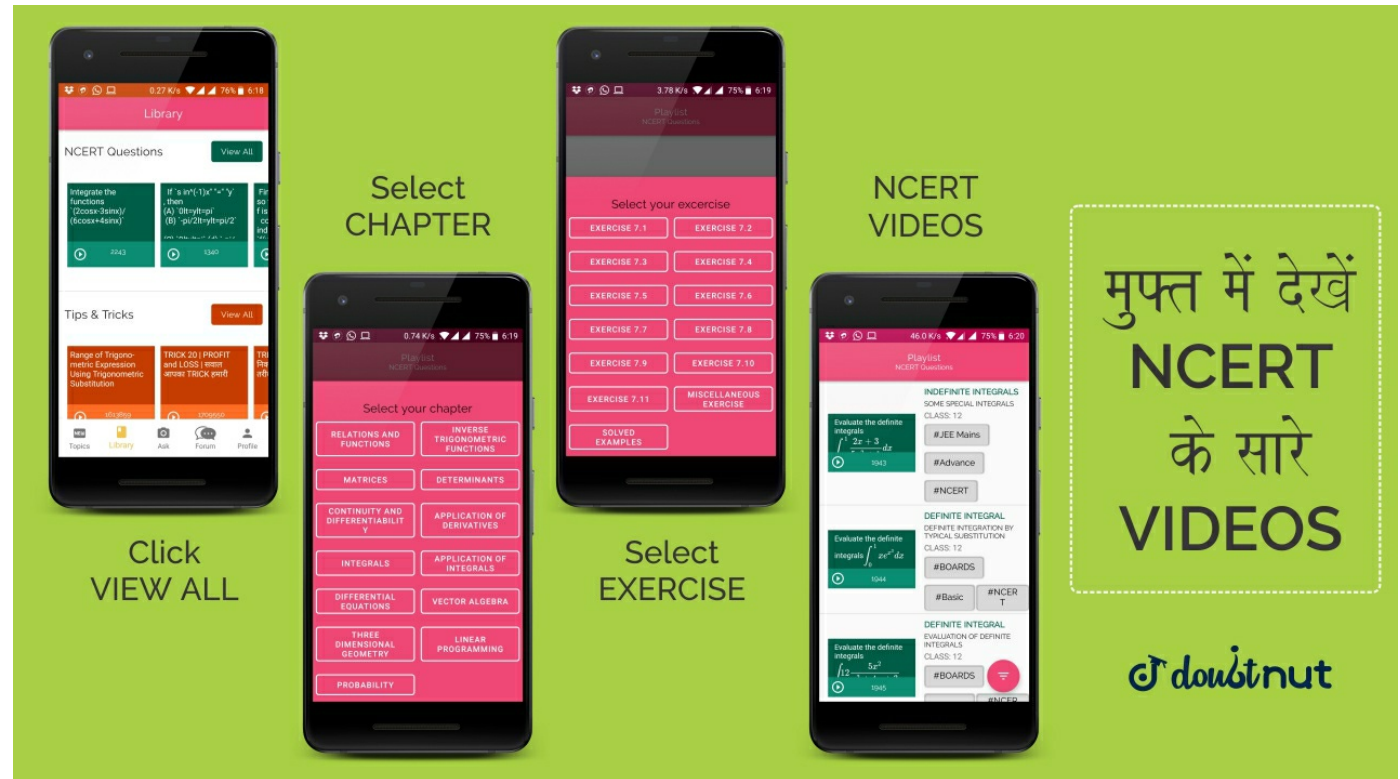
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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Construct a triangle of sides 4 cm, 5 cm and 6 cm and then a triangle similar to it where sides are $\frac{2}{3}$ of the corresponding sides of the first triangle.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

The horizontal distance between two poles is 15 m. The angle of depression of the top of first pole as seen from the top of second pole is 30° . If the height of the second pole is 24 m, find the height of the first pole. Use $\sqrt{3} = 1.732$

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Show that the points (7, 10), (-2, 5), and (3, -4) are the vertices of an isosceles right triangle.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Find the ratio in which the y-axis divides the line segment joining the points (-4, -6) and (10, 12). Also find the coordinates of the point of division.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

In the given figure, AB and CD are two diameters of circles (with centre O) Perpendicular to each other and OD is the diameter of the smallest circle. If OA = 7cm, Find the area of the shaded region.

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A vessel is in the form of a hollow hemisphere mounted by a hollow cylinder. The diameter of the hemisphere is 14 cm and the total height of the vessel is 13 cm. Find the inner surface area of the vessel.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

A wooden article was made by scooping out a hemisphere from each end of a solid cylinder. If the height of the cylinder is 10 cm, and its base is of radius 3.5 cm, find the total surface area of the article.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

In a circle of radius 21cm, an arc subtends an angle of 60° at the centre. Find (i) the length of the arc (ii) area of the sector formed by the arc. $\left(Use \pi \frac{22}{7} \right)$

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Solve for:

$$\frac{1}{2a + b + 2x} = \frac{1}{2a} + \frac{1}{b} + \frac{1}{2x}$$

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

If the sum of first 7 terms of an AP is 49 and that of 17 terms is 289, find the sum of first n terms.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Prove that the tangent at any point of circle is perpendicular to the radius through the point of contact.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

l and m are two parallel tangents to a circle with centre O , touching the circle at A and B respectively. Another tangent at C intersects the line l at D and m at E . Prove that $\angle DOE = 90^\circ$.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

The angle of elevation of the top of a building from the foot of the tower is 30° and the angle of elevation of the top of the tower from the foot of the building is 60° . If the tower is 60 m high, find the height of the building.

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A group consists of 12 persons, of which 3 are extremely patient, other 6 are extremely honest and rest are extremely kind. A person from the group is selected at random. Assuming that each person is equally likely to be selected, find the probability of selecting a person who is (i) extremely patient (ii) extremely kind or honest. Which of the above values you prefer

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

Three vertices of a parallelogram ABCD are

$$A(3, -4),$$

$$B(-1, -3) \text{ and } C($$

$$-6, 2).$$

Find the coordinates of vertex D and find the area of parallelogram ABCD.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

water is flowing at the rate of 2.52 km/h through a cylindrical pipe into a cylindrical tank, the radius of whose base is 40 cm, If the increase in the level of water in the tank, in half an hour is 3.15 m, find the internal diameter of the pipe.

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CLASS 10 BOARDS MATHS SOLUTIONS - 2014

A bucket open at the top, and made up of a metal sheet is in the form of a frustum of a cone. The depth of the bucket is 24 cm and the diameters of its upper and lower circular ends are 30 cm and 10 cm respectively. Find the cost of metal sheet used in it at the rate of Rs 10 per 100cm^2 .

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The advertisement features two smartphones. The left phone displays a math problem involving sets: $X = \{a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z\}$ and $Y = \{a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z\}$. Below the problem are tags like #SETS, #SUBSETS, and #MCROC. The right phone displays the 'Library' section with 'NCERT Questions' and 'Tips & Tricks' sections. The central text box is yellow with a dashed border.