

# CLASS 12 PRE-BOARDS SPECIAL



## Chapter 9. DIFFERENTIAL EQUATIONS

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Ques No.	Question
1 - 10396	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation : <math>(1 + y^2)(1 + \log x)dx + x \, dy = 0</math></p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
2 - 10399	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Form the differential equation of the family of curves <math>y = A e^{Bx}</math> where A and B are constants.</p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
3 - 10412	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>If <math>y = a \cos(\log x) + \sin(\log x)</math>, prove that <math>\frac{x^2 d^2}{dx^2} + x \frac{dy}{dx} + y = 0</math></p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
4 - 10419	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation : <math>(x^2 - 1) \frac{dy}{dx} + 2x y = \frac{2}{(x^2 - 1)}</math></p>

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5 - 10480

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $(y^2 - x^2)dy = 3x y dx$

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6 - 10481

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Verify that  $y = A \cos x - B \sin x$  is solution of the differential equation.  
 $\frac{d^2y}{dx^2} + y = 0$

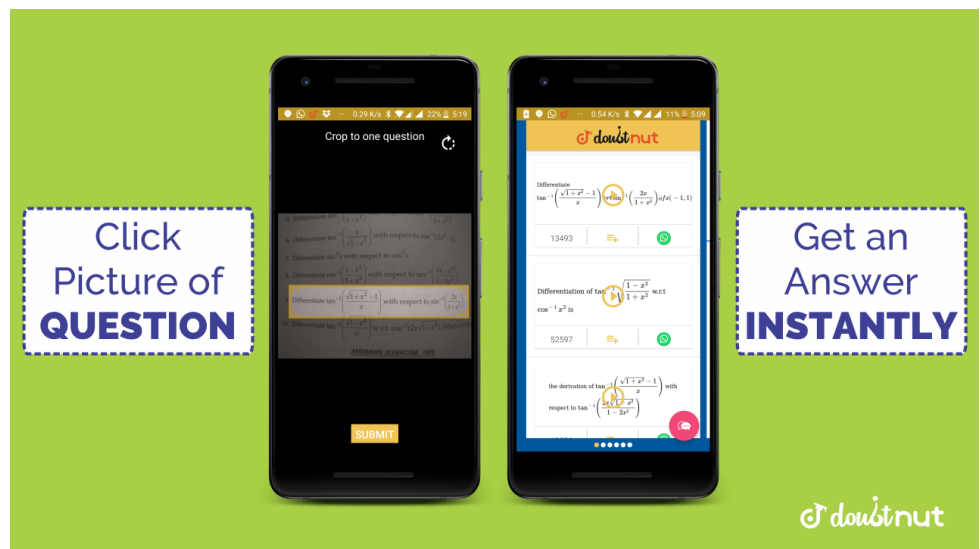
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7 - 10496

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solving the following differential equation:  $\sin x \frac{dy}{dx} + \cos x y = \cos x \sin^2 x$

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8 - 10502

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

If  $y = \sqrt{x} + \frac{1}{x}$ , Show that  $2x \frac{dy}{dx} + y = 2\sqrt{x}$

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9 - 10508

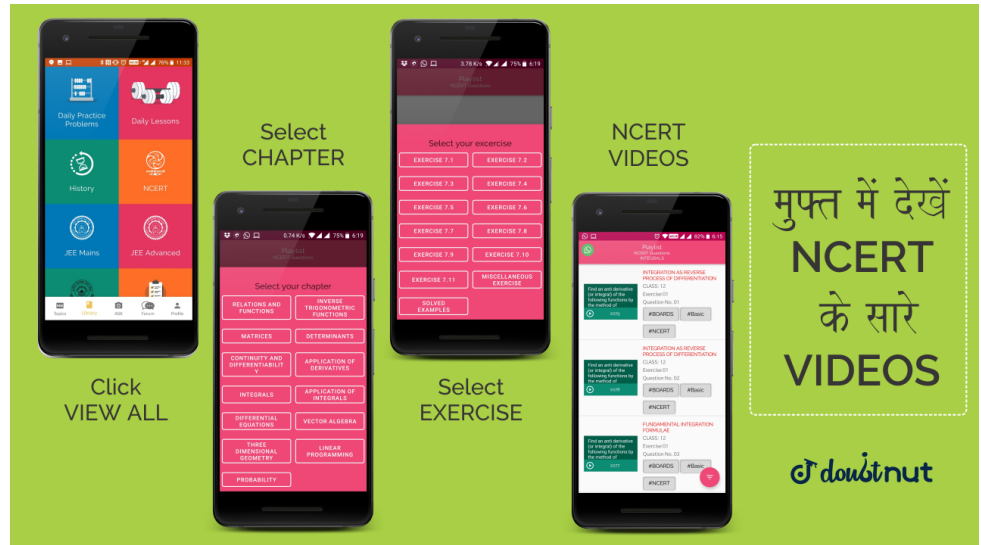
**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

If  $y = \sin(\log x)$ , prove that  $x^2 \frac{d^2y}{dx^2} + x \frac{dy}{dx} + y = 0$

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<p>10 - 10517</p>	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation : <math>x \cos y \, dy = (xe^x \log x + e^x)dx</math></p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
<p>11 - 10529</p>	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation : <math>\frac{dy}{dx} + 2y = 6e^x</math></p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
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<p>12 - 10530</p>	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Form the differential equation of the family of curves <math>y = A \cos 2x + B \sin 2x</math>, where A and B are constants.</p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
<p>13 - 10535</p>	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation: <math>x \frac{dy}{dx} + y = x \log x; \ x \neq 0</math></p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
<p>14 - 10551</p>	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Form the differential equation representing the parabolas having vertex at the origin and axis along positive direction of x-axis.</p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
<p>15 - 10552</p>	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation: <math>(3x y + y^2)dx + (x^2 + x y)dy = 0</math></p>

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16 - 10564

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $\cos^2 x \frac{dy}{dx} + y = \tan x$

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17 - 10574

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $(x^2 - y^2)dx + 2xy dy = 0$  given that  $y = 1$  when  $x = 1$

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18 - 10575

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $\frac{dy}{dx} = \frac{x(2y - x)}{x(2y + x)}$ , if  $y = 1$  when  $x = 1$

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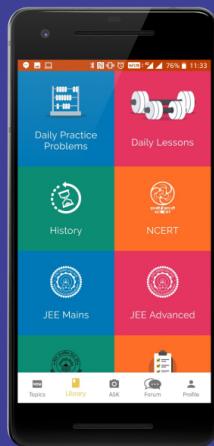
19 - 10611

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

If  $y = e^a \cos^{(-1)x}$ ,  $-1 \leq x \leq 1$ , show that  $(1 - x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx} - a^2 y = 0$

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20 - 10612

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If  $\sqrt{x}\sqrt{1+y} + y\sqrt{1+x} = 0$ ,  $\frac{dy}{dx} = ?$

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21 - 10650

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Write the degree of the differential equation  $x^3 \left( \frac{d^2y}{dx^2} \right)^2 + x \left( \frac{dy}{dx} \right)^4 = 0$ .

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22 - 10663

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Write the differential equation representing the family of curves  $y = mx$ , where  $m$  is an arbitrary constant.

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23 - 10666

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Show that the differential equation  $2ye^{\frac{x}{y}} dx + (y - 2xe^{xy}) dy = 0$  is homogeneous. Find the particular solution of this differential equation, given that  $x = 0$  when  $y = 1$ .

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24 - 10680

### CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS

Find the particular solution of this differential equation  $\frac{x^2 dy}{dx} - xy = 1 + \cos\left(\frac{y}{x}\right)$ ,  $x \neq 0$ . Find the particular solution of this differential equation, given that when  $x = 1$ ,  $y = \frac{\pi}{2}$ .

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25 - 10693

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Solve the following differential equation:  $\frac{dy}{dx} + y = \cos x - \sin x$

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26 - 10694

### CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS

Find the particular solution, satisfying the given condition, for the following differential equation:  $\frac{dy}{dx} - \frac{y}{x} + \operatorname{cosec}\left(\frac{y}{x}\right) = 0$ ;  $y = 0$  when  $x = 1$

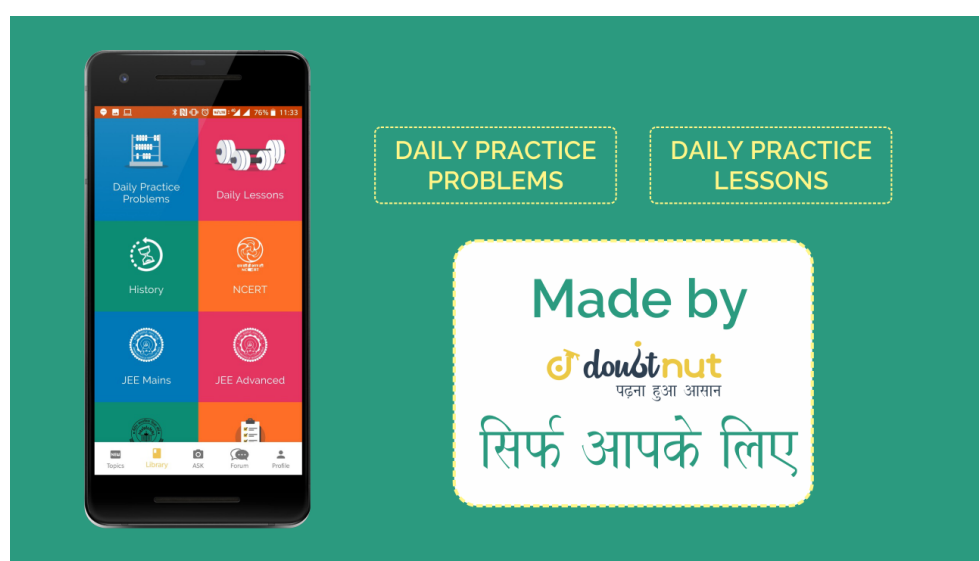
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27 - 10701

### CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS

Solve the following differential equation:  $\frac{(x^2 - 1)dy}{dx} + 2xy = \frac{1}{x^2 - 1}$ ;  $|x| \neq 1$

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28 - 10702

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $\sqrt{1 + x^2 + y^2 + x^2 y^2} + xy \frac{dy}{dx} = 0$

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29 - 10708

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Form the differential equation representing the family of ellipses foci on x-axis and centre at the origin.

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30 - 10714

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $2x^2 \frac{dy}{dx} - 2xy + y^2 = 0$

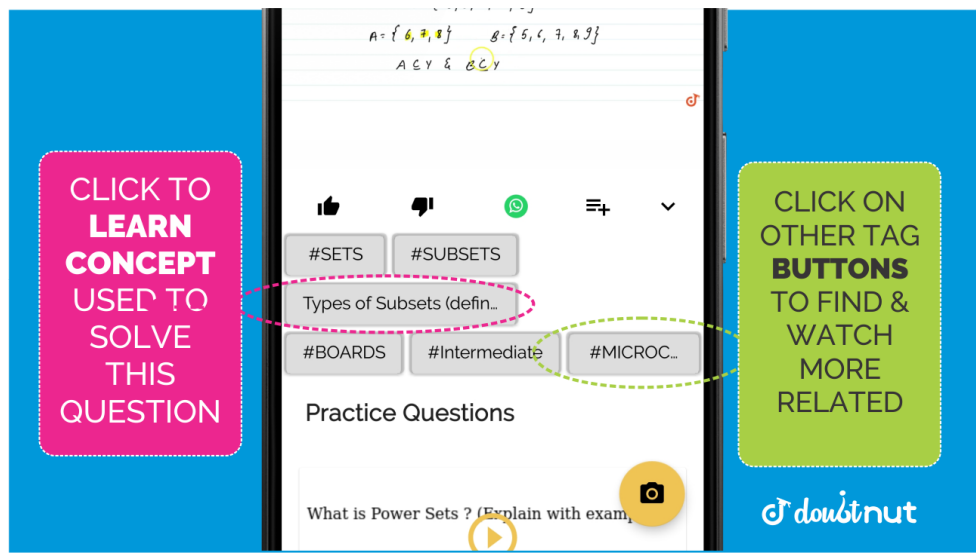
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31 - 10715

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the following differential equation:  $\frac{dy}{dx} = 1 + x^2 + y^2 + x^2 y^2$ , given that  $y = 1$  when  $x = 0$ .

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32 - 10738

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $(x^3 + y^3)dy - x^2ydx = 0$

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33 - 10745

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Solve the following differential equation:  $(1 + x^2)dy + 2xy dx = \cot x dx; x \neq 0$

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34 - 10752

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Show that the differential equation  $\frac{(x - y)dy}{dx} = x + 2y$ , is homogeneous and solve it.

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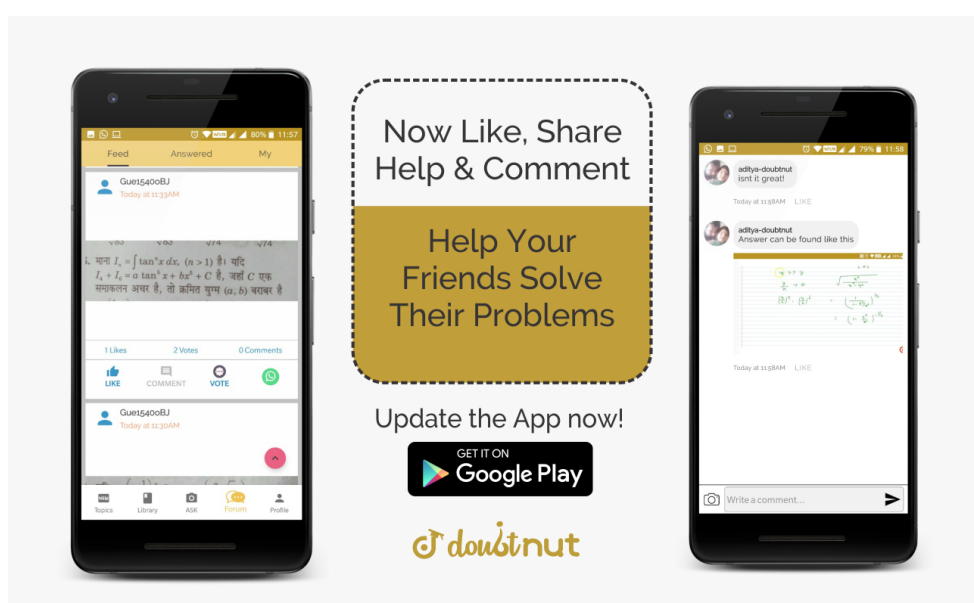
35 - 10764

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation.  $\frac{dy}{dx} + y \cot x = 4x \operatorname{cosec} x, (x \neq 0)$ , given that  $y = 0$  when  $x = \frac{\pi}{2}$ .

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36 - 10769

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

What is the degree of the following differential equation?

$$5x \left( \frac{dy}{dx} \right)^2 - \frac{d^2 y}{dx^2} - 6y = \log x$$

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37 - 10808

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $y \, dx + x \log\left(\frac{y}{x}\right) dy = 2x \, dy$

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38 - 10809

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the following differential equation satisfying the given condition :  $\frac{(3x^2 + y)dx}{dy} = x, x > 0$ , when  $x = 1, y = 1$

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39 - 10834

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

If  $y = 3 \cos(\log x) + 4 \sin(\log x)$ , then show that  $x^2 \frac{d^2 y}{dx^2} + \frac{dy}{dx} + y = 0$

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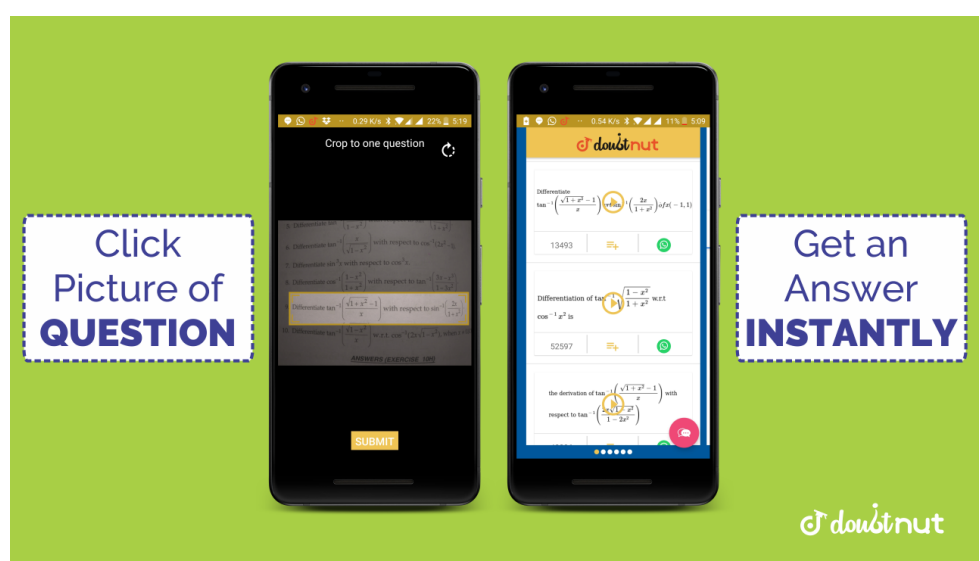
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40 - 10885	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation: <math>x \, dy - y \, dx = \sqrt{x^2 + y^2} \, dx</math></p> <p><a href="#">▶ Click to watch Free Video Solution of this question on Doubtnut</a></p>
41 - 10886	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation: <math>(y + 3x^2) \frac{dx}{dy} = x</math></p> <p><a href="#">▶ Click to watch Free Video Solution of this question on Doubtnut</a></p>
42 - 10898	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation: <math>\cos^2 x \frac{dy}{dx} + y = \tan x</math></p> <p><a href="#">▶ Click to watch Free Video Solution of this question on Doubtnut</a></p>
43 - 10899	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Solve the following differential equation: <math>x \frac{dy}{dx} = y - x \tan\left(\frac{y}{x}\right)</math></p> <p><a href="#">▶ Click to watch Free Video Solution of this question on Doubtnut</a></p>



44 - 10914

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $\left[ \frac{e^{-2\sqrt{x}}}{\sqrt{x}} - \frac{y}{\sqrt{x}} \right] \frac{dx}{dy} = 1, x \neq 0$

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45 - 10915

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $3e^x \tan y \, dx + (2 - e^x) \sec^2 y \, dy = 0$ , given that when  $x = 0, y = \frac{\pi}{4}$ .

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46 - 10941

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation  $(\tan^{-1} y - x) dy = (1 + y^2) dx$ , given that when  $x = 0, y = 0$ .

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47 - 10947

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation:  $e^x \tan y \, dx + (1 - e^x) \sec^2 y \, dy = 0$

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48 - 10957

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation satisfying the given conditions:  
 $x^2 dy + (xy + y^2) dx = 0$ ;  $y = 1$  when  $x = 1$ .

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49 - 10962

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation  
 $x(x^2 - a) \frac{dy}{dx} = 1$ ;  $y = 0$  when  $x = 2$

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50 - 10963

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Form the differential equation of the family of circles in the second quadrant and touching the coordinate axes.

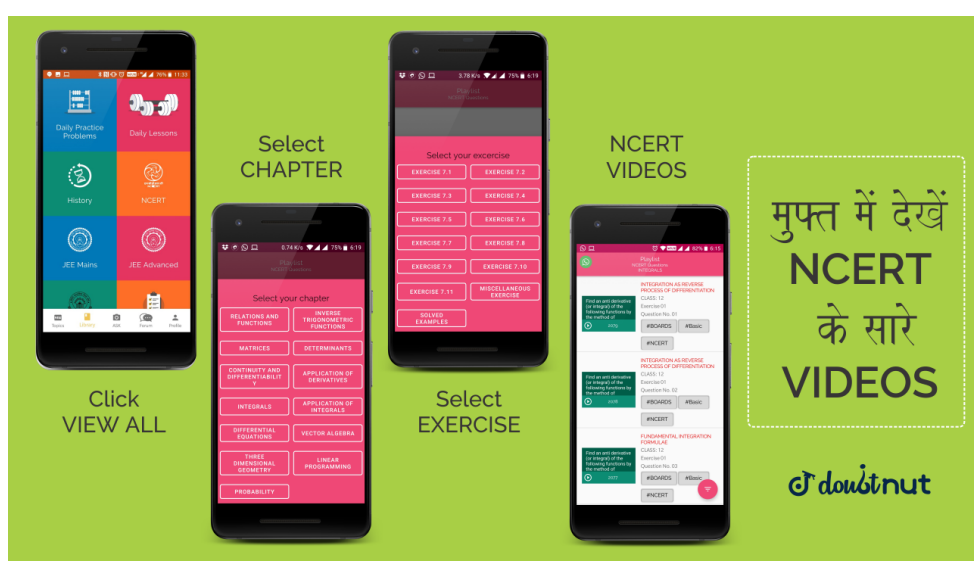
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51 - 10974

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Write the differential equation formed from the equation  $y = mx + c$ , here  $m$  and  $c$  are arbitrary constants.

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52 - 10999

### CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS

Find the particular solution of the differential equation:  $(1 + e^{2x})dy + (1 + y^2)e^x dx = 0$ , given that  $y = 1$ , when  $x = 0$ .

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53 - 11061

### CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS

Find the particular solution of the differential equation satisfying the given conditions:  $\frac{dy}{dx} = y \tan x$ , given that  $y = 1$  when  $x = 0$

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54 - 11062

### CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS

Find the general solution of the differential equation  $x \log x \frac{dy}{dx} + y = \frac{2}{x} \log x$

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55 - 13238

### CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS

Solve the differential equation  $x \frac{dy}{dx} + y = x \cos x + \sin x$ , given  $y\left(\frac{\pi}{2}\right) = 1$

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56 - 13247

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation  $x \frac{dy}{dx} = y + x \cos ec\left(\frac{y}{x}\right) = 0$ ; given that  $y = 0$  when  $x = 1$ .

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57 - 13255

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation  $e^x \sqrt{1 - y^2} dx + \frac{y}{x} dy = 0$ , given that  $y = 1$  when  $x = 0$

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58 - 13282

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve for  $x$ :  $2 \tan^{-1}(\cos x) = \tan^{-1}(2 \cos ec x)$

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59 - 13297

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

If  $y(x)$  is a solution of the differential equation  $\left(\frac{2 + \sin x}{1 + y}\right) \frac{dy}{dx} = -\cos x$  and  $y(0) = 1$ , then find the value of  $y\left(\frac{\pi}{2}\right)$ .

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60 - 13326

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the differential equation  $(x^2 - y)dy + (y^2 + x^2y^2)dx = 0$ , given that  $y = 1$ , when  $x = 1$ .

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61 - 13327

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the differential equation  $\frac{dy}{dx} + y \cot x = 2 \cos x$ , given that  $y = 0$ , when  $x = \frac{\pi}{2}$ .

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62 - 13341

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the differential equation :  $\left(x \sin^2\left(\frac{y}{x}\right) - y\right)dx + xdy = 0$  given  $y = \frac{\pi}{4}$  when  $x = 1$ .

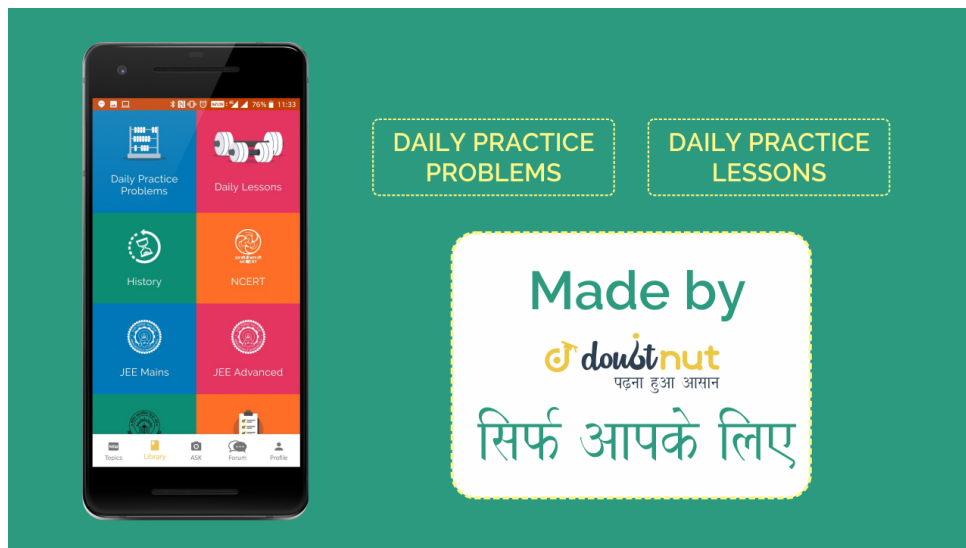
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63 - 13347

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the solution f the differential equation  $\frac{dy}{dx} = x^3e^{-2y}$ .

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64 - 13353

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the differential equation  $\frac{dy}{dx} - 3y \cot x = \sin 2x$  given  $y = 2$  when  $x = \frac{\pi}{2}$ .

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65 - 13370

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Write the sum of the order and degree of the differential equation  $1 + \left(\frac{dy}{dx}\right)^4 = 7\left(\frac{d^2}{dx^2}\right)^3$

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66 - 13373

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Write the differential equation obtained by eliminating the arbitrary constant  $C$  in the equation representing the family of curves  $xy = C \cos x$ .

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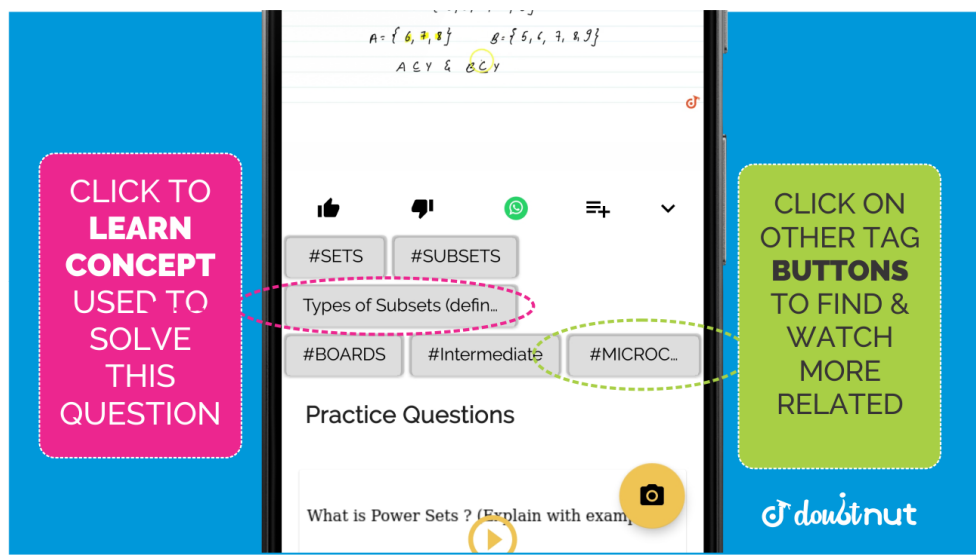
67 - 13384

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the differential equation  $x^2 dy + (xy + y^2) dx = 0$  given  $y = 1$ , when  $x = 1$

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68 - 13385

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation  $x \frac{dy}{dx} + y - x + xy \cot x = 0$ ;  $x \neq 0$ , given that when  $x = \frac{\pi}{2}$ ,  $y = 0$

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69 - 13405

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation :  $\left(\sqrt{1+x^2+y^2+x^2y^2}\right)dx + xydy = 0$

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70 - 13407

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Write the sum of the order and degree of the differential equation  $\left(\frac{d^2y}{dx^2}\right) + \left(\frac{dy}{dx}\right)^3 + x^4 = 0$ .

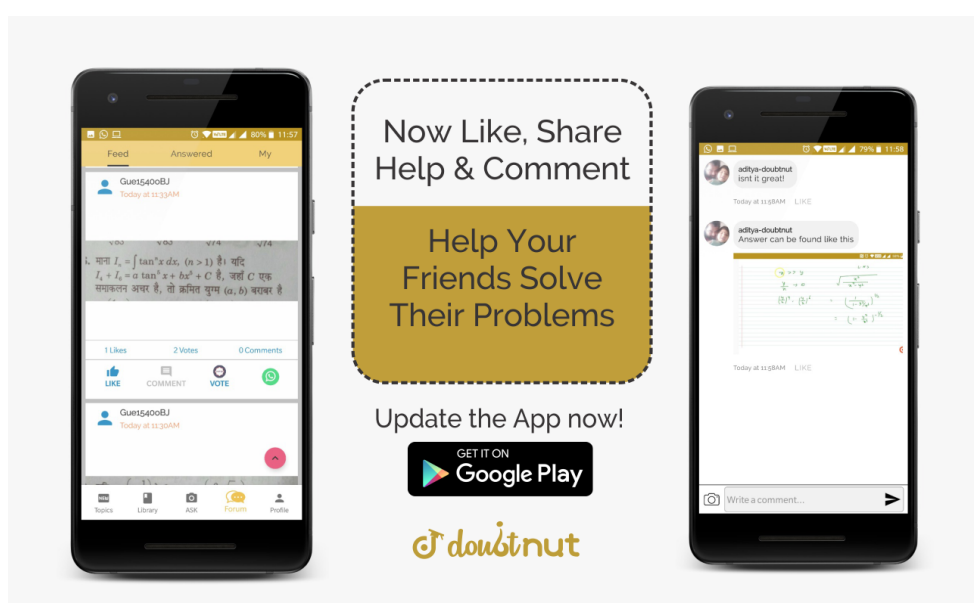
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71 - 13408

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Write the solution of the differential equation  $\frac{dy}{dx} = 2^{-y}$

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72 - 13420

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find whether the following function is differentiable at  $x = 1$  and  $x = 2$  or not :  
 $f(x) = \begin{cases} x, & x < 1 \\ 2 - x, & 1 \leq x \leq 2 \\ 2 + 3x - x^2, & x > 2 \end{cases}$

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73 - 13437

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the differential equation :  $y + x \frac{dy}{dx} = x - y \frac{dy}{dx}$

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74 - 13481

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the particular solution of the differential equation  $(1 - y^2)(1 + \log x)dx + 2xydy = 0$ , given that  $y = 0$  when  $x = 1$ .

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75 - 13482

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Find the general solution of the following differential equation :  
 $(1 + y^2) + \frac{(x - e^{\tan^{-1}(-1/y)})}{dx} dy = 0$

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76 - 13516

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation :  $(\cot^{-1} y + x)dy = (1 + y^2)dx$

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77 - 13519

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the following differential equation :  $y^2 dx + (x^2 - xy + y^2)dy = 0$

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78 - 228033

**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Prove that  $x^2 - y^2 = c(x^2 + y^2)^2$  is the general solution of differential equation  $(x^3 - 2xy^2)dx = (y^3 - 3x^2y)dy$ , where c is a parameter.

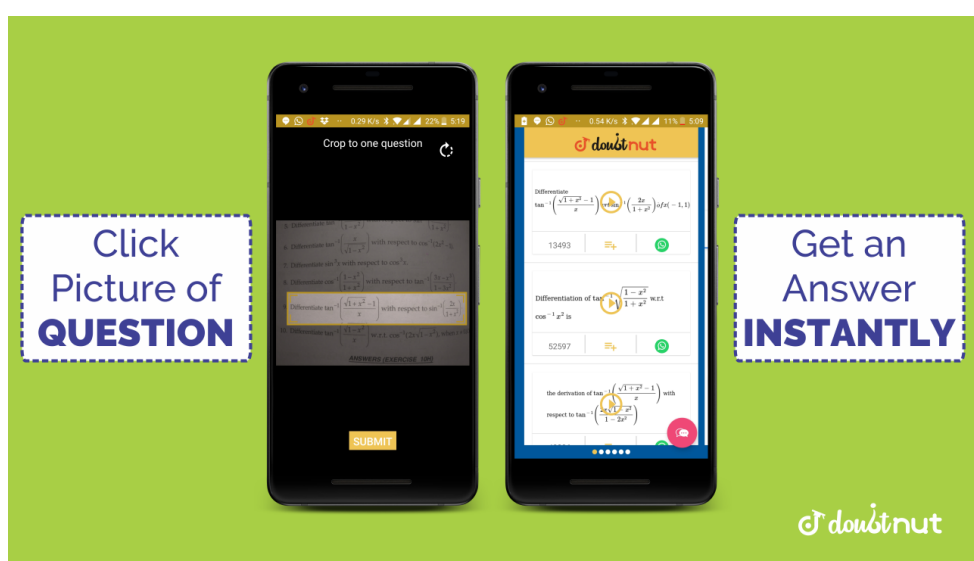
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79 - 228090

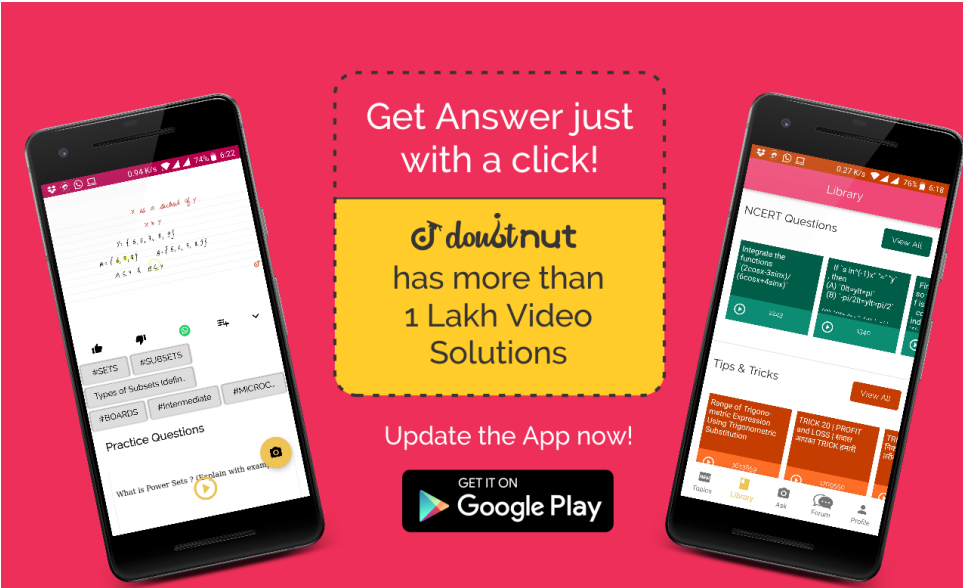
**CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS**

Solve the differential equation:  $(1 + x^2) \frac{dy}{dx} + y = \tan^{-1} x$

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80 - 228174	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Find the particular solution of the following differential equation:  <math>\frac{dy}{dx} = 1 + x^2 + y^2 + x^2y^2</math>, given that <math>y = 1</math> when <math>x = 0</math>.</p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
81 - 1166888	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Find the differential equation representing the family of curves <math>y = ae^{bx+5}</math>, where a and b are arbitrary constants.</p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
82 - 1166989	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>Find the particular solution of the differential equation  <math>e^x \tan y dx + (2 - e^x) \sec^2 y dy = 0</math>, given that <math>y = \frac{\pi}{4}</math> when <math>x=0</math></p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
83 - 1166995	<p><b>CLASS 12 PRE-BOARDS SPECIAL - Chapter 9. DIFFERENTIAL EQUATIONS</b></p> <p>The differential equations, find a particular solution satisfying the given condition:  <math>\frac{dx}{dy} + 2y \tan x = \sin x</math>; <math>y = 0</math> when <math>x = \frac{\pi}{3}</math></p> <p><a href="#">Click to watch Free Video Solution of this question on Doubtnut</a></p>
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