**Expert ID/Name: Nstructive**

**Date: 05-Nov-2020**

**C:\Users\chari\Desktop\32.PNG**

**Answer:**

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| Short answer type question |

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| Tip:   1. Equation of the family of circles touching the Y-axis at the origin is , where a is the radius of the family of the circles. 2. Differentiate with respect to “x” on both sides. 3. If an equation has “n” number of arbitrary constants then we need to do differentiation in “n” number of times. |

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| Given: Equation of the family of circles touching the Y-axis at the origin is .  To find\determine\prove: Form the differential equation of  Explanation: -  Step1:   |  |  | | --- | --- | | Instruction | Make the subject is differentiate the differential equation with respect to “ ”. | | Calculation | Differentiate the function  with respect to “x” on both sides. |   Step2:   |  |  | | --- | --- | | Instruction | Substitute  in . | | Calculation | Thus the required differential equation is  . | |
| Verified Answer: -  The differential equation of  is .  Hence verified. |