Introduction to Differential Equations

Assignment # 1

Tian Xiaoyang

26001904581

P1.

Slope field of the equation

Table

Description automatically generated with low confidence

P2.

Slope field of the equation

Chart

Description automatically generated

From the differential equation and the slope equation, the solutions have decency on both values t and y.

When , as increases in value, the slope is positive and goes steeper.

When , as increases in value, the slope is negative and goes steeper.

When , the slope is 0.

P3.

has no dependency on t, the solutions to the differential equation only depend on values of y.

The slope field of the equation

Chart

Description automatically generated

P4.

(a)

Highest derivative is , therefore, this is a second order differential equation.

(b)

Highest derivative is , therefore, this is a first order differential equation.

(c)

Highest derivative is , therefore, this is a third order differential equation.