

1. Find the Taylor series solution at $x=0$ for the following equation

$$2x(1-x)y'' + (1+x)y' - y = 0$$

2. Find the Taylor series solution at $x=2$ for the following equation

$$y' + y = 2x^2 + 3x + 1$$

3. Find the Taylor series solution at $x=0$ for the following equation

$$x(x-1)y'' + (3x-1)y' + y = 0$$