S4 - 17B. Devoir 1

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Exercice 2:

Resolitopm des equations differentielles non lineraires de 2nd ordre

1. (E):
$$y' = xy' + \sqrt{(1 + (y')^2)}$$

2. (E):
$$x = yy' + (y')^3$$

3. (E):
$$2xy' = y + y'$$

Exercice 3:

Resolution des equations differentielles du second ordre:

1. (E):
$$xy' = y + 3xy^2$$

2. (E):
$$y' + \frac{y}{x+1} = \frac{1}{2}(x+1)^3y^3$$

- 3. (E): $y'(1-\sin(s)\cos(x))+y^2\cos(x)-y'+\sin(x)=0$ si $y=\cos(x)$ est une solution particuliere
- 4. (E): $y = xy' + (y')^3$