## S4 GROUPE n

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## Exercice 1:

1. 
$$y' = \sin(y)$$

2. 
$$x^2y' = e^y$$

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

4. 
$$y' + y = 2e^x + 4\sin(x)$$

5. 
$$y' - 2y = 2x^3 + x$$
 ou  $y(3) = 1$ 

6. 
$$y' + 2xy = e^{x-x^2}$$

7. 
$$y'\cos(2y) - \sin(y) = 0$$

8. 
$$y' - 2y = 2x^3 + x$$
 ou  $y(3) = 1$ 

## Exercice 2:

$$1. xy' = y + 3xy^2$$

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

3. 
$$y'(1 - \sin(s)\cos(x)) + y^2\cos(x) - y' + \sin(x) = 0$$
  
Si  $y = \cos(x)$  est une solution particuliere

4. 
$$y = xy' + (y')^3$$