6.2

△ P.31

$$f(x) = e^5$$

$$f'(x) = 0$$

○ P.33

$$f(x) = (3x^2 - 5x)\, e^x$$

$$f'(x) = (6x - 5) \cdot e^x + (3x^2 - 5x)\, e^x$$

$$f'(x) = e^x \cdot (3x^2 + x - 5)$$

$f(x)g(x) = f'(x)g(x) + f(x)g'(x)$

$3x^2 + x - 5$

$e^x \rightarrow e^x$

$e^{x^3} \rightarrow 3 \cdot e^x$

○ P.35

$$f(x) = e^{ax^3}$$

$$f'(x) = 3ax^2 \cdot e^{ax^3}$$

○ P.37

$$f(x) = e^{\tan\theta}$$

$$\tan\theta' = \sec^2\theta$$

$$f'(x) = \sec^2\theta \cdot e^{\tan\theta}$$

P. 39

$$f(x) = \frac{x^2 \cdot e^x}{x^2 + e^x}$$

$$y = \frac{f(x)}{g(x)} = \frac{f'(x) \cdot g(x) - f(x) g'(x)}{\{g(x)\}^2}$$

$$f(x) = x^2 \cdot e^x \qquad f'(x) = 2x e^x + x^2 \cdot e^x$$

$$g(x) = x^2 + e^x \qquad g'(x) = 2x + e^x$$

$$(2x \cdot e^x + x^2 \cdot e^x) \cdot (x^2 + e^x) - (x^2 \cdot e^x) \cdot (2x + e^x)$$

$$(x^2 + e^x)(2x \cdot e^x) + (x^2 + e^x)(x^2 \cdot e^x) - (x^2 \cdot e^x) \cdot (2x + e^x)$$

$$(x^2 + e^x)(x^2 \cdot e^x)$$

$$x^4 \cdot x^2 \cdot e^x + e^x x^2 \cdot e^{2x}$$

P. 41

$$y = x^2 e^{-3x}$$

$$y' = 2x \cdot e^{-3x} + x^2 \cdot -3 e^{-3x}$$

$$y' = e^{-3x}(2x - 3x^2)$$

$$y' = x e^{-3x}(2 - 3x)$$

@?

✗ P. 43

$3x$

$$f(t) = e^{at} \cdot \sin bt$$

$$f'(t) = a \cdot e^{at} \cdot \sin bt + e^{at} \cdot \cos bt$$

$$e^{at}(a \cdot \sin bt + \cos \cdot bt)$$

b

6.4

P. 3

$$f(x) = \sin(\ln x)$$

$$\cos \cdot \ln x \times \frac{1}{x}$$

$$f'(x) = \frac{\cos \cdot \ln x}{x}$$

P. 5

$$f(x) = \ln \frac{1}{x} \Rightarrow \log e^1 - \log e^x$$

$$\cancel{\ln 1}(-\ln x)'$$

$$f'(x) = -\frac{1}{x} \qquad -\frac{1}{x}$$

P.7

$$f(x) = \log_{10}(1+\cos x)$$

$$f'(x) = \log_{10}' \times \log_{10}\cos x$$

$$\log_{10}\cos x + \log_{10}'$$

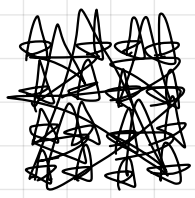
P.9

$$y(x) = \ln(x e^{-2x})$$

$$y(x) = \ln x \cdot x + \ln e^{-2x}$$

$$y(x) = \ln x - 2x$$

$$y'(x) = \frac{1}{x} - 2$$



$$\begin{pmatrix} 30 + 150 + 50 + 70 \\ (\text{월급}) \quad (\text{대출}) \quad (\text{적금}) \quad (\text{자전거}) \end{pmatrix} = 300$$ 원

P. 11

$$F(t) = (\ln t)^2 \sin t$$

$$F(t) = 2 \cdot \ln t \cdot \sin t$$

$$\frac{2}{t} \cdot \sin t + 2 \ln t \cdot \sin t$$

$$\frac{2 \cdot \sin t}{t} + 2 \ln t \cdot \sin t$$