

$$32. f'(x) = 3x^2 - \frac{1}{5}x^5 - \frac{3}{6}x^6 + a$$

$$f(x) = x^3 - \frac{1}{30}x^6 - \frac{1}{14}x^7 + ax + b$$

$$34. f''(x) = \frac{1}{x^2}$$

$$f'(x) = -\frac{1}{x} + C_1$$

$$f(x) = -\ln x + C_1 x + C_2$$

$$36. f^{(3)}(t) = \sqrt{t} - 2\cos t$$

$$f^{(2)}(t) = \frac{2}{3}t^{\frac{3}{2}} - 2\sin t + C_1$$

$$f'(t) = \frac{2}{5} \times \frac{2}{3} t^{\frac{5}{2}} + 2\cos t + C_1 t + C_2$$

$$f(t) = \frac{4}{15} \times \frac{2}{7} t^{\frac{7}{2}} + 2\sin t + \frac{C_1}{2} t^2 + C_2 t + C_3$$

$$38. f'(x) = \sqrt{x} - 2$$

$$f(x) = \frac{2}{3} x^{\frac{3}{2}} - 2x + C_1$$

$$\text{by } f(9) = 4 = \frac{2}{3} \times 27^{\frac{3}{2}} - 18 + C_1$$

$$\Rightarrow C_1 = 4$$

$$47. f''(\theta) = \sin \theta + \cos \theta$$

$$f'(\theta) = -\cos \theta + \sin \theta + C_1$$

$$f(\theta) = -\sin \theta - \cos \theta + C_1 \theta + C_2$$

$$f(0) = -1 + C_2 = 3 \Rightarrow C_2 = 4$$

$$f'(0) = -1 + C_1 = 4 \Rightarrow C_1 = 5$$

48. $f''(t) = t^2 + \frac{1}{t^2}$

$$f'(t) = \frac{1}{3}t^3 - \frac{1}{t} + C_1$$

$$f(t) = \frac{1}{4} \times \frac{1}{3} t^4 - \ln t + C_1 t + C_2$$

$$f(2) = \frac{1}{12} \times 16 - \ln 2 + 2C_1 + C_2 = 3 \quad \leftarrow \boxed{C_2} = 3 - \frac{16}{3} + \ln 2 - \frac{4}{3}$$

$$f'(1) = \frac{1}{3} - 1 + C_1 = 2$$

$$\Rightarrow \boxed{C_1 = \frac{8}{3}}$$

$$= \boxed{-\frac{11}{3} + \ln 2}$$

52. $f''(t) = t^{\frac{1}{2}} - \cos t$

$$f'(t) = \frac{3}{4} t^{\frac{3}{2}} - \sin t + C_1$$


$$f(t) = \frac{3}{7} \times \frac{3}{4} t^{\frac{5}{2}} + \cos t + C_1 t + C_2$$

$$f(0) = 2 = C_2$$

$$f(1) = \frac{9}{28} + \cos 1 + C_1 + 2 = 2 \Rightarrow C_1 = -\frac{9}{28} - \cos 1$$

57. 斜率要一開始是負後正

↓
(f 值為 a or b or c 的斜率)

⇒  ⇒ 僅 b 符合

58. 斜率一開始正後負.

⇒  ⇒ 僅 a 符合