

Rev. 4.1-4.5

- ① 64 ② 9 ③ $\frac{27}{64}$ ④ $\frac{1}{5}$ ⑤ 125 ⑥ $\frac{1}{9}$ ⑦ $\frac{3}{2}$ ⑧ 8
 ⑨ 2^{16} ⑩ $\frac{1}{8}$ ⑪ $\frac{9}{4}$ ⑫ 4 ⑬ $\frac{1}{5}$ ⑭ 2^{12} ⑮ 2^3 ⑯ $\frac{1}{5}$
 ⑰ e^7 ⑱ e^7 ⑲ $e^{-\frac{1}{2}}$ ⑳ 1 ㉑ e^9 ㉒ 1 ㉓ e^5
 ㉔ e^4 ㉕ e^6 ㉖ e^{-5} ㉗ $e^{\frac{3}{2}}$ ㉘ e^{5x+3}

- ㉙ $x = -\frac{3}{2}$ ㉚ $x = 2$ ㉛ $x = \frac{4}{3}$ ㉜ $x = \frac{7}{3}$
 ㉝ $x = 2$ ㉞ $x = 5$ ㉟ $x = -2$ ㊱ 16
 ㊲ $x = -2$ ㊳ $x = \pm e\sqrt{2}$ ㊴ $x = e\sqrt[3]{3}$ 40 = $x = 0$

- ㊵ $f'(x) = 6e^{2x}$ ㊶ $f'(x) = 4e^{x+1}$ ㊷ $f'(x) = (3x^2 - 6x) e^{x^3 - 3x^2 + 1}$
 ㊸ $f'(x) = 3(e^{3x} + 2)^2 e^{3x} \cdot 3$ ㊹ $f'(x) = \frac{-3e^x}{(e^x + 1)^2}$
 $= 9e^{3x} (e^{3x} + 2)^2$

- ㊺ $f'(x) = e^x x^2 (2x^2 + 3)$ ㊻ $f'(x) = \frac{-e^{-x}(x+2)}{(x+1)^2}$
 ㊼ $f'(x) = e^{3x-4} (3x^2 + 11x + 9)$ ㊽ $f'(x) = 2e^{2x} (x-3)(x-2)$
 ㊾ $f'(x) = \frac{-e^{-2x}(2x+1)}{x^2}$ ㊿ $f'(x) = 4e^{4x}$ 52 $f'(x) = \frac{-e^{\frac{1}{x}}}{x^2}$

- 53 $f'(x) = 4x^2 e^{-x} (3-x)$ 54 $f'(x) = \frac{-6(e^x - e^{-x})}{(e^x + e^{-x})^4}$

$$(55) \quad y' = e^x \sqrt[3]{2}$$

$$(56) \quad f'(x) = (6x-2) e^{3x^2-2x}$$

$$(57) \quad f'(x) = \frac{2e^{2x}(x^2-x+1)}{(x^2+1)^2}$$

$$(58) \quad f'(x) = -e^{-x}(x^2-2x+1)$$

$$(59) \quad f'(x) = 10x e^{x^2} (e^{x^2}+3)^4$$

$$(60) \quad f'(x) = \frac{x e^{x+1}}{(x+1)^2}$$

$$(61) \quad f'(x) = e^{2x} (1-2x)$$

$$(62) \quad y - \frac{1}{e^2} = -\frac{1}{e^2} (x-1)$$

$$(73) \quad y - 2 = -1(x-0)$$