第 5 章　習題簡答

習題 5-1

1. (1) $\dfrac{1}{20}(2x+1)^5 - \dfrac{1}{16}(2x+1)^4 + c$　(2) $\dfrac{1}{36}(x^4+1)^9 + c$　(3) $-\dfrac{1}{15(x^3+2)^5} + c$　(4) $\dfrac{1}{3}(x^2-1)^{\frac{3}{2}} + c$

  (5) $\dfrac{1}{8}\sqrt{1+8x^2} + c$　(6) $\dfrac{1}{5}(x+2)^5 - \dfrac{1}{2}(x+2)^4 + c$　(7) $\dfrac{2}{5}(x+2)^{\frac{5}{2}} - \dfrac{4}{3}(x+2)^{\frac{3}{2}} + c$

  (8) $\dfrac{1}{11}(x^3+1)^{\frac{11}{3}} - \dfrac{1}{8}(x^3+1)^{\frac{8}{3}} + c$　(9) $\dfrac{2}{3}(1+x)^{\frac{3}{2}} - 2(1+x)^{\frac{1}{2}} + c$　(10) $\dfrac{1}{3}(1+x^2)^{\frac{3}{2}} - (1+x^2)^{\frac{1}{2}} + c$

2. (1) $-\dfrac{2^{11}}{11}$　(2) 513　(3) $\sqrt{18} - \sqrt{11}$　(4) $\dfrac{2}{3}(\ln 22 - \ln 3)$　(5) $\dfrac{1}{3\sqrt{2}}$　(6) $\dfrac{3392}{2835}$　(7) $\dfrac{506}{375}$

3.略　4.略

習題 5-2

1. $2(e^2 - e)$　2. $\dfrac{1}{2}(e^5 - e^2)$　3. $\dfrac{1}{4}(\ln(\ln x^2))^2 + c$　4. $-\dfrac{1}{e^x+1} + c$　5. $x - \ln(1+e^x) + c$

6. $-\dfrac{1}{6}\ln|1-2x^3| + c$　7. $-\dfrac{1}{6}e^{-3x^2} + c$　8. $-e^{\frac{1}{x}} + c$　9. $\ln(1+e^x) + c$　10. $2e^{\sqrt{x}} + c$

11. $\dfrac{1}{2}\ln|2e^x - 1| + c$　12. $e^{e^x} + c$　13. $\ln(e^x + e^{-x}) + c$

14.題目更改：$\displaystyle\int \dfrac{dx}{e^x - 2 + e^{-x}} = -\dfrac{1}{e^x - 1} + c$　15. $2\sqrt{e^x - 1} + c$　16. $e^x - 3\ln(e^x + 1) + c$

17. $2\ln\left|1 + e^{\sqrt{x}}\right| + c$　18. $\dfrac{1}{3}[\ln(1+e^x)]^3 + c$　19. $\dfrac{3^{\ln 2x}}{\ln 3} + c$

習題 5-3

1. $\ln|\sin x| + c$　2.$\ln|\csc x - \cot x| + c$　3. $\dfrac{1}{5}\ln|\sec 5x| + c$　4. $\dfrac{1}{5}\ln|3 + \sin 5x| + c$　5. $x + \cos x + c$

6. $-\dfrac{2}{3}\cot 3x - x - \dfrac{2}{3}\csc 3x + c$　7. $\dfrac{2}{3}(5 + \tan x)^{\frac{3}{2}} + c$　8. $-\dfrac{1}{6}(\sin x + \cos x)^6 + c$　9.$\dfrac{1}{2}[\ln(\sin x)]^2 + c$

10. $\dfrac{2}{9}(4 + 3\sec x)^{\frac{3}{2}} + c$　11. $\dfrac{\pi^2}{32}$　12. $(\tan^{-1}\sqrt{x})^2 + c$　13. $e^{4+\sin x} + c$　14. $\dfrac{1}{3}\cos(\cos 3x) + c$

15. $\sin e^x + c$　16. $\tan^{-1} e^x + c$　17. $\ln\left|e^x - e^{-x}\right| + c$　18. $-2\cos\sqrt{x} + c$　19. $\sin(\ln x) + c$

20. $-e^{\cos x} + c$　21. $\dfrac{1}{2}(\tan^{-1} x)^2 + c$　22. $\dfrac{1}{2}(\sin^{-1} x)^2 + c$　23. $\sin^{-1}\dfrac{\ln x}{3} + c$　24. $\dfrac{1}{2}\sec^{-1} x^2 + c$

25. $\dfrac{1}{3}\sin^{-1} x^3 + c$　26. $\dfrac{1}{2\sqrt{3}}\tan^{-1}\dfrac{x^2}{\sqrt{3}} + c$　27. $\dfrac{1}{3}\sec^{-1}\dfrac{2x}{3} + c$　28. $\dfrac{1}{2}\tan^{-1}\dfrac{\ln x}{2} + c$

習題 5-4

1. $-x\cos x+\sin x+c$ 2. $x^3e^x-3x^2e^x+6xe^x-6e^x+c$ 3. $\dfrac{1}{3}x\sin 3x+\dfrac{1}{9}\cos 3x+c$

4. $-\dfrac{\ln x}{4x^4}-\dfrac{1}{16x^4}+c$ 5. $x\sin^{-1}3x+\dfrac{1}{3}\sqrt{1-9x^2}+c$ 6. $x\tan^{-1}x-\dfrac{1}{2}\ln(1+x^2)+c$

7. $\dfrac{x^2}{3}e^{3x}-\dfrac{2}{9}xe^{3x}+\dfrac{2}{27}e^{3x}+c$ 8. $\dfrac{x^4}{4}\ln 5x-\dfrac{x^4}{16}+c$ 9. $x(\ln x)^2-2x\ln x+2x+c$

10. $x(\ln x)^3-3x(\ln x)^2+6x\ln x-6x+c$ 11. $-\dfrac{x}{4}\cos 2x+\dfrac{1}{8}\sin 2x+c$ 12. $\dfrac{1}{3}x^3e^{x^3}-\dfrac{1}{3}e^{x^3}+c$

13. $\dfrac{1}{2}x^2e^{x^2}-\dfrac{1}{2}e^{x^2}+c$ 14. $\dfrac{1}{2}-\dfrac{1}{2}x^2e^{-x^2}-\dfrac{1}{2}e^{-x^2}+c$ 15. $\dfrac{1}{2}x^2\sin x^2+\dfrac{1}{2}\cos x^2+c$

16. $-\dfrac{1}{3}e^{6x}\cos e^{3x}+\dfrac{2}{3}e^{3x}\sin e^{3x}+\dfrac{2}{3}\cos e^{3x}+c$ 17. $\dfrac{e^{x^2}}{2(x^2+1)}+c$ 18. $\dfrac{1}{2}e^x(\sin x+\cos x)+c$

19. $\dfrac{1}{2}e^{\sin^{-1}x}(x+\sqrt{1-x^2})+c$ 20. $x^2e^x-2xe^x+2e^x+c$ 21. $\dfrac{x^2}{2}\sin^{-1}x-\dfrac{1}{4}\sin^{-1}x+\dfrac{x\sqrt{1-x^2}}{4}+c$

22. $\dfrac{x^2}{2}\ln x-\dfrac{x^2}{4}+c$, 23. $\dfrac{x^4}{4}\ln x-\dfrac{x^4}{16}+c$ 24. $x\tan x-\ln|\sec x|+c$ 25. $\dfrac{x^2}{4}-\dfrac{x}{4}\sin 2x+\dfrac{1}{8}\cos 2x+c$

26. $\dfrac{x^3}{3}\sin^{-1}x-\dfrac{1}{9}(1-x^2)^{\frac{3}{2}}+\dfrac{1}{3}(1-x^2)^{\frac{1}{2}}+c$ 27. $x^2\sqrt{1+x^2}-\dfrac{2}{3}(1+x^2)^{\frac{3}{2}}+c$

28. $x^2\sin x+2x\cos x-2\sin x+c$ 29. $x\sin^{-1}x+\sqrt{1-x^2}+c$ 30. $x\ln x-x+c$

31. $\dfrac{2}{13}e^{2x}\cos 3x+\dfrac{3}{13}e^{2x}\sin 3x+c$ 32. $\dfrac{2}{13}e^{2x}\sin 3x-\dfrac{3}{13}e^{2x}\cos 3x+c$

33. $-\dfrac{1}{5}e^{-x}\cos 2x+\dfrac{2}{5}e^{-x}\sin 2x+c$ 34. $-\dfrac{1}{5}e^{-x}\sin 2x-\dfrac{2}{5}e^{-x}\cos 2x+c$

35. $\dfrac{2}{5}e^x\sin 2x+\dfrac{1}{5}e^x\cos 2x+c$ 36. $e^{\sin x}\sin x-e^{\sin x}+c$ 37. $\dfrac{x3^x}{\ln 3}-\dfrac{3^x}{(\ln 3)^2}+c$

38. $x\ln(1+x^3)-3x+\ln|x+1|-\dfrac{1}{2}\ln(x^2-x+1)+\sqrt{3}\tan^{-1}\dfrac{2x-1}{\sqrt{3}}+c$ 39. $-\dfrac{1}{2}x^2\cos x^2+\dfrac{1}{2}\sin x^2+c$

40. 略, 41 略, 42. $-\dfrac{12}{e^2}+4$ 43. $\dfrac{\pi}{4}-\dfrac{1}{2}$ 44. $bf'(b)-af'(a)-f(b)+f(a)$

習題 5-5

1. $-\dfrac{1}{14}\cos 7x+\dfrac{1}{6}\cos 3x+c$ 2. $-\dfrac{1}{16}\cos 8x+\dfrac{1}{4}\cos 2x+c$ 3. $-\dfrac{1}{10}\sin 5x+\dfrac{1}{2}\sin x+c$

4. $\dfrac{1}{12}\sin 6x+\dfrac{1}{4}\sin 2x+c$ 5. $\dfrac{1}{18}\sin 9x+\dfrac{1}{6}\sin 3x+c$ 6. $-\dfrac{1}{18}\sin(9x+6)+\dfrac{1}{10}\sin 5x+c$

7. $\dfrac{1}{3}\cos^3 x-\cos x+c$ 8. $\dfrac{1}{2}(x-\sin x\cos x)+c$ 9. $\sin x-\dfrac{1}{3}\sin^3 x+c$

10. $-\left(\dfrac{1}{5}\sin^5 x-\dfrac{2}{3}\sin^3 x+\sin x\right)+c$ 11. $\dfrac{5}{16}x-\dfrac{1}{4}\sin 2x+\dfrac{3}{64}\sin 4x+\dfrac{1}{48}\sin^3 2x+c$

12. $x-\dfrac{1}{2}\cos 2x+c$, 13. $\dfrac{1}{5}\cos^5 x-\dfrac{1}{3}\cos^3 x+c$ 14. $\dfrac{x}{8}-\dfrac{1}{32}\sin 4x+c$

15. $\dfrac{1}{9}\sin^9 x-\dfrac{2}{7}\sin^7 x+\dfrac{1}{5}\sin^5 x+c$ 16. $\dfrac{3}{2}x+\dfrac{3}{20}\sin 10x+c$ 17. $\dfrac{2}{9}\cos^{\frac{9}{2}} x-\dfrac{2}{5}\cos^{\frac{5}{2}} x+c$

18. $\dfrac{1}{5}\sin^5 x-\dfrac{1}{7}\sin^7 x+c$ 19. $\dfrac{3x}{8}+\dfrac{1}{4}\sin 2x+\dfrac{1}{32}\sin 4x+c$

20. $\dfrac{1}{16}\sin 2x-\dfrac{1}{48}\sin^3 2x-\dfrac{1}{64}\sin 4x-\dfrac{1}{16}\sin 2x+\dfrac{1}{16}x+c$ 21. $\dfrac{3}{2}\sin^{\frac{2}{3}} x-\dfrac{3}{8}\sin^{\frac{8}{3}} x+c$

22. $-\dfrac{1}{\sin x}-2\sin x+\dfrac{1}{3}\sin^3 x+c$ 23. $\dfrac{2}{7}\cos^{\frac{7}{2}} x-\dfrac{2}{3}\cos^{\frac{3}{2}} x+c$ 24. $\dfrac{2}{5}\cos^5 \sqrt{x}-\dfrac{2}{3}\cos^3 \sqrt{x}+c$

25. $\dfrac{1}{4}\tan^4 x-\dfrac{1}{2}\tan^2 x+\ln|\sec x|+c$ 26. $-\dfrac{1}{5}\cot^5 x+\dfrac{1}{3}\cot^3 x-\cot x-x+c$ 27. $\tan x-x+c$

28. $\dfrac{1}{2}\tan^2 x-\ln|\sec x|+c$ 29. $-\dfrac{1}{2}\cot^2 x-\ln|\sin x|+c$ 30. $-\dfrac{1}{3}\cot^3 x+\cot x+x+c$

31. $-\dfrac{2}{3}\cot 3x-x-\dfrac{2}{3}\csc 3x+c$ 32. $\dfrac{1}{4}\sec^3 x\tan x+\dfrac{3}{8}\sec x\tan x+\dfrac{3}{8}\ln|\sec x+\tan x|+c$

33. $\dfrac{1}{6}\tan^6 x+\dfrac{1}{4}\tan^4 x+c$ 34. $-\dfrac{1}{24}\cot^8 3x-\dfrac{1}{9}\cot^6 3x-\dfrac{1}{12}\cot^4 3x+c$ 35. $\dfrac{2}{7}\tan^{\frac{7}{2}} x+\dfrac{2}{3}\tan^{\frac{3}{2}} x+c$

36. $\dfrac{1}{6}\tan^6 x+\dfrac{1}{2}\tan^4 x+\dfrac{1}{2}\tan^2 x+c$ 37. $\csc x+\cot x+c$ 38. $\dfrac{1}{2}\cos^2 x-\ln|\cos x|+c$

39. $\dfrac{1}{2}\left(\ln|\csc x-\cot x|+\ln|\sec x+\tan x|\right)+c$ 40. $\dfrac{1}{2}\sin 2x+c$

41. $\dfrac{1}{2\sqrt{2}}\ln\left|\dfrac{\tan\dfrac{x}{2}-1-\sqrt{2}}{\tan\dfrac{x}{2}-1+\sqrt{2}}\right|+\dfrac{\tan\dfrac{x}{2}-1}{1+\tan^2\dfrac{x}{2}}+c$

習題 5-6

1. $\dfrac{x}{4\sqrt{4-x^2}}+c$ 2. $\dfrac{8}{3}\sin^{-1}\left(\dfrac{3x}{4}\right)+\dfrac{x\sqrt{16-9x^2}}{2}+c$ 3. $\dfrac{1}{10}\sin^{-1}(5x)+\dfrac{x\sqrt{1-25x^2}}{2}+c$

4. $5\sin^{-1}\left(\dfrac{x-1}{\sqrt{6}}\right)+c$ 5. $\sin^{-1}\left(\dfrac{x}{3}\right)+c$ 6. $3\ln\left|\dfrac{3-\sqrt{9-4x^2}}{2x}\right|+\sqrt{9-4x^2}+c$

7. $\dfrac{9}{2}\sin^{-1}\dfrac{x}{3}+\dfrac{x\sqrt{9-x^2}}{2}+c$ 8. $\dfrac{1}{4}\tan^{-1}\dfrac{x}{4}+c$ 9. $\dfrac{x}{9\sqrt{9+4x^2}}+c$ 10. $\ln\left|\sqrt{x^2+6x+10}+x+3\right|+c$

11. $\dfrac{x\sqrt{9+x^2}}{2}-\dfrac{9}{2}\ln\left|\sqrt{9+x^2}+x\right|+c$ 12. $\ln\left|\sqrt{9+x^2}+x\right|+c$ 13. $\dfrac{1}{3}\ln\left|\dfrac{\sqrt{9+4x^2}-3}{2x}\right|+c$

14. $-\dfrac{\sqrt{4+x^2}}{4x}+c$ 15. $\dfrac{x}{4\sqrt{4+x^2}}+c$ 16. $\dfrac{x\sqrt{9+x^2}}{2}+\dfrac{9}{2}\ln\left|\sqrt{9+x^2}+x\right|+c$

17. $\dfrac{1}{5}(1+x^2)^{\frac{5}{2}}-\dfrac{1}{3}(1+x^2)^{\frac{3}{2}}+c$ 18. $\sqrt{4x^2-9}-3\sec^{-1}\dfrac{2x}{3}+c$ 19. $\ln\left|\dfrac{1}{x}-\dfrac{\sqrt{1-x^2}}{x}\right|+c$

20. $\dfrac{\sqrt{x^2-1}}{x}+c$ 21. $\dfrac{25}{54}\sin^{-1}\left(\dfrac{3x}{5}\right)-\dfrac{x\sqrt{25-9x^2}}{18}+c$ 22. $\dfrac{e^x\sqrt{e^{2x}-9}}{2}-\dfrac{9}{2}\ln\left(e^x+\sqrt{e^{2x}-9}\right)+c$

23. $\dfrac{x\sqrt{x^2-9}}{2}-\dfrac{9}{2}\ln\left|x+\sqrt{x^2-9}\right|+c$ 24. $\dfrac{1}{2}\sec^{-1}\left(\dfrac{e^x}{2}\right)+c$ 25. $2x-\dfrac{7}{2}\tan^{-1}\dfrac{x+1}{4}+c$

26. $\dfrac{1}{2}\ln\left|x^2-2x-8\right|+\dfrac{10}{3}\ln\left|\dfrac{x-4}{\sqrt{x^2-2x-8}}\right|+c$ 27. $\dfrac{1}{3}\tan^{-1}\dfrac{x-2}{3}+c$

28. $\ln\left|x^2-4x+14\right|+\dfrac{9\sqrt{10}}{10}\tan^{-1}\dfrac{x-2}{\sqrt{10}}+c$ 29. $\ln\left|x-1+\sqrt{x^2-2x}\right|+c$

30. $-3\sqrt{2x-x^2}+5\sin^{-1}(x-1)+c$ 31. $-\sqrt{8+2x-x^2}+\sin^{-1}\dfrac{x-1}{3}+c$

32. $\ln\left|2x+1+\sqrt{4x^2+4x-16}\right|+c$ 33. $\sqrt{5-2x+x^2}-3\ln\left|\sqrt{x^2-2x+5}+x-1\right|+c$ 34. $\sqrt{3}-\dfrac{\pi}{3}$

35. $\sqrt{2}+\ln(\sqrt{2}+1)$ 36. $\dfrac{25}{6}-\dfrac{25}{8}\ln 3$

習題 5-7

1. $\dfrac{1}{4}\ln\left|\dfrac{x-2}{x+2}\right|+c$ 2. $\dfrac{3}{2}\ln\left|x-3\right|+\dfrac{1}{2}\ln\left|x+3\right|+c$ 3. $\dfrac{2}{5}\ln\left|x\right|-\dfrac{7}{5}\ln\left|x+5\right|+c$

4. $3\ln\left|x\right|-\dfrac{3}{2}\ln(x^2+1)-\tan^{-1}x+c$ 5. $\dfrac{1}{3}x^3+3x+\dfrac{4}{3}\ln\left|x-1\right|-\dfrac{13}{3}\ln\left|x+2\right|+c$

6. $\ln\left|x\right|+\dfrac{1}{2}\ln\left|x-1\right|-\dfrac{1}{2}\ln\left|x+1\right|+c$ 7. $\ln\left|x+1\right|+\dfrac{3}{x+1}-\dfrac{3}{2(x+1)^2}+c$

8. $\dfrac{3}{25}\ln\left|x\right|-\dfrac{1}{25x}-\dfrac{3}{50}\ln(x^2+1)-\dfrac{1}{125}\tan^{-1}x+c$

9. $\dfrac{5}{12}\ln\left|x-1\right|-\dfrac{3}{4}\ln\left|x+1\right|+\dfrac{3}{2(x+1)}+\dfrac{4}{3}\ln\left|x+2\right|+c$

10. $\dfrac{1}{2}x^2-2x+\dfrac{1}{8}\ln\left|x\right|+\dfrac{1}{4x}-\dfrac{1}{4x^2}+\dfrac{31}{8}\ln\left|x+2\right|+c$

11. $\dfrac{7}{27}\ln|x+1|+\dfrac{4}{9(x+1)}+\dfrac{20}{27}\ln|x-2|-\dfrac{11}{9(x-2)}+c$ 12. $\dfrac{1}{32}\ln|x-2|-\dfrac{1}{32}\ln|x+2|-\dfrac{1}{16}\tan^{-1}\dfrac{x}{2}+c$

13. $-\ln|\tan x|+\dfrac{1}{\tan x}+\ln|\tan x-1|+c$ 14. $x-\ln(e^x+1)+\dfrac{1}{e^x+1}+c$

15. $2\ln|x-1|-11\ln|x-2|+10\ln|x-3|+c$ 16. $\ln|x|+\ln|x-1|+\ln|x+2|+c$

17. $2\ln|x-1|-\dfrac{1}{x-1}-2\ln|x+2|+c$ 18. $2\ln|x-1|+\dfrac{2}{x-1}-\ln(x^2+1)+\tan^{-1}x+c$

19. $\tan^{-1}x+\dfrac{1}{2}\ln(x^2+4)-\dfrac{3}{2}\tan^{-1}\dfrac{x}{2}+c$ 20. $-\dfrac{1}{x+2}+\dfrac{3}{2(x+2)^2}+\dfrac{1}{3(x+2)^3}+c$

21. $\ln|x-1|-\dfrac{4}{x-1}-\dfrac{3}{(x-1)^2}-\dfrac{2}{3(x-1)^3}-\dfrac{1}{2(x-1)^4}+c$ 22. $-\dfrac{1}{e^x+1}+\dfrac{1}{2(e^x+1)^2}+c$

23. $-\dfrac{1}{9}\ln|e^x+1|+\dfrac{1}{3(e^x+1)}+\dfrac{1}{9}\ln|e^x-2|+c$ 24. $-\dfrac{1}{4}\ln(e^{2x}+1)-\dfrac{1}{2}\tan^{-1}e^x+\dfrac{1}{2}\ln|e^x-1|+c$

25. $\dfrac{1}{4}\ln|e^x-1|-\dfrac{1}{4}\ln|e^x+3|+c$ 26. $\ln|\sin x|-\dfrac{1}{2}\ln(\sin^2 x+1)+c$

27. $\sqrt{2}\ln\left|\dfrac{\sqrt{2}+\tan\dfrac{x}{2}-1}{\sqrt{1+2\tan\dfrac{x}{2}-\tan^2\dfrac{x}{2}}}\right|+c$ 28. $-\tan\dfrac{x}{2}+x+c$ 29. $\dfrac{2}{5}\ln\left|\dfrac{2\tan\dfrac{x}{2}+1}{\sqrt{4-4\tan^2\dfrac{x}{2}+6\tan\dfrac{x}{2}}}\right|+c$

30. $\dfrac{1}{2}\tan^{-1}\dfrac{5\tan\theta+3}{4}+c$ 31. $\dfrac{2}{\sqrt{5}}\tan^{-1}\left(\sqrt{5}\tan\dfrac{x}{2}\right)+c$ 32. $\dfrac{2}{3}\tan^{-1}\left(\dfrac{5\tan\dfrac{x}{2}+4}{3}\right)+c$

33. $\sqrt{2}\ln\left|\dfrac{\sqrt{2}+\tan\dfrac{x}{2}-1}{\sqrt{1+2\tan\dfrac{x}{2}-\tan^2\dfrac{x}{2}}}\right|+c$ 34. $\ln\left|\dfrac{\tan\dfrac{x}{2}}{\tan\dfrac{x}{2}+1}\right|+c$

35. $-\ln\left|1+\tan\dfrac{x}{2}\right|+\dfrac{1}{2}\ln\left|1+\tan^2\dfrac{x}{2}\right|+\dfrac{x}{2}+c$

36. $-\dfrac{1}{2}\ln\left|1-\tan\dfrac{x}{2}\right|+\dfrac{1}{2}\ln\left|1+\tan\dfrac{x}{2}\right|-\dfrac{1}{1+\tan\dfrac{x}{2}}+\dfrac{1}{(1+\tan\dfrac{x}{2})^2}+c$

習題 5-8
1.收斂 2.收斂 3.發散 4.收斂 5.收斂 6.發散 7.收斂 8.發散 9.發散 10.收斂 11.收斂 12.發散
13.收斂 14.收斂 15.發散 16.收斂。

習題 5-9
1. 梯形法則 ≈ 604.06，辛普森法則 ≈ 596.25 2. 梯形法則 ≈ 5.6724，辛普森法則 ≈ 5.6527
3. 梯形法則 ≈ 0.6938，辛普森法則 ≈ 0.6932 4. 梯形法則 ≈ 0.9871，辛普森法則 ≈ 1.0001
5. 梯形法則 ≈ 1.3694，辛普森法則 ≈ 1.3708 6. 梯形法則 ≈ 0.7462，辛普森法則 ≈ 0.7468
7. 梯形法則 ≈ 1.1352，辛普森法則 ≈ 1.1358