

เฉลยแบบฝึกหัด 6.1

1. $\frac{4x}{(1+2x^2)}$

2. $2e^{2x}$

3. $\frac{3}{x}$

4. $4xe^{2x^2}$

5. $\frac{(1+2x)}{2(x+x^2+2)}$

6. $(2x^2+4x)e^x$

7. $\frac{7x+1}{2x^2+2x}$

8. $e^x 3^{e^x} \ln 3$

9. $\frac{1}{[\ln(x+1)](x+1)}$

10. $2x + 2^x \ln 2 + (x + 2x \ln |2x|)(2x)^{x^2}$

11. $\frac{2\sqrt{x} \ln x}{x} + \frac{\ln^2 x}{2\sqrt{x}}$

12. $\frac{2e^x + 2e^{2x}}{3}$

13. $\frac{2x}{(x^2+1)\ln 2}$

14. $(x+1)e^x + \frac{1}{x \ln 2}$

15. $\frac{10+7x^{\frac{5}{2}}}{10x+2x^{\frac{7}{2}}}$

16. $\frac{(3^x+x-\ln x)(e^x+(2x+1)e^{2x})-(e^x+xe^{2x})(3^x \ln 3+1-\frac{1}{x})}{(3^x+x-\ln x)^2}$

17. $\frac{1+2\ln x}{x \ln x}$

18. $(2+2\ln|2x|)(2x)^{2x}$

19. $\frac{1}{2} \sqrt{\frac{(x-1)(x-2)}{(x-3)(x-4)}} \left[\frac{1}{x-1} + \frac{1}{x-2} - \frac{1}{x-3} - \frac{1}{x-4} \right]$

20. $\frac{(3x-x^2)e^{-x}}{(1+x)^2(\ln x)} \left[\frac{3-2x}{3x-x^2} - 1 - \frac{2}{1+x} - \frac{1}{x \ln x} \right]$

21. $4 - \frac{3}{x \ln 3}$

22. $-\cosh(1-x)$

23. $x + 2x \ln x$

24. $2e^{2x} \cosh(-x) - \sinh(-x)(e^{2x})$