Math 1510
Practice problems on indefinite integrals - answers

1. $\frac{3}{4}x^{\frac{4}{3}} + \frac{1}{3}x^3 - 2\ln|x| + c,\ c \in \mathbb{R}$

2. $-\frac{1}{2}\cos 2x + \frac{1}{3}\tan 3x + c,\ c \in \mathbb{R}$

3. $\frac{1}{2}x^2 - \frac{1}{e}x^e + 4\ln|x|,\ c \in \mathbb{R}$

4. $\frac{1}{5}x^5 - \frac{2}{3}x^3 + x + c,\ c \in \mathbb{R}$

5. $\frac{1}{\ln 3}\sin 3^x + c,\ c \in \mathbb{R}$

6. $\frac{-1}{4 \cdot 2013}(1 - x^4)^{2013} + c,\ c \in \mathbb{R}$

7. $\frac{-1}{6}\cos^6 x + \frac{1}{3}\cos^3 x - \cos x + c,\ c \in \mathbb{R}$

8. $\frac{-1}{\ln x} + c,\ c \in \mathbb{R}$

9. $\frac{2}{125}(5x-2)^{\frac{5}{2}} + \frac{4}{75}(5x-2)^{\frac{3}{2}} + c,\ c \in \mathbb{R}$

10. $\frac{4}{3}x^{\frac{3}{2}} + 2\sin\sqrt{x} + c,\ c \in \mathbb{R}$

11. $\frac{1}{\pi+1}(\pi + e^x)^{\pi+1} + c,\ c \in \mathbb{R}$

12. $-\ln|\cos x| + c,\ c \in \mathbb{R}$

13. $\frac{1}{22}(2x-1)^{11} - \frac{1}{3}\cos(x^3+1) + c,\ c \in \mathbb{R}$

14. $\frac{1}{5}(x^2+4)^{\frac{5}{2}} - \frac{4}{3}(x^2+4)^{\frac{3}{2}} + c,\ c \in \mathbb{R}$

15. $-\cos(\ln x) - \frac{1}{2}(\ln x)^2 + c,\ c \in \mathbb{R}$

16. $\frac{2}{7}(x-1)^{\frac{7}{2}} + \frac{2}{5}(x-1)^{\frac{5}{2}} + c,\ c \in \mathbb{R}$

17. $\sin x - \frac{1}{3}\sin^3 x + c,\ c \in \mathbb{R}$

18. $\frac{2}{15}(3x+1)^{\frac{5}{3}} - \frac{1}{3}(3x+1)^{\frac{2}{3}} + c,\ c \in \mathbb{R}$

19. $\frac{1}{2}\ln(x^2+1) - \frac{1}{\ln 5}5^x + c,\ c \in \mathbb{R}$

20. $\frac{1}{12}\sec^3 4x + c,\ c \in \mathbb{R}$