0.1 Substitution

1. $\int x \sin x^2 \, dx$

2. $\int x \sin(x^2 + 3) \, dx$

3. $\int x e^{x^2} \, dx$

4. $\int x \cos x^2 \, dx$

5. $\int x^2 e^{x^3+2} \, dx$

6. $\int \sin^3 x \cos x \, dx$

7. $\int \frac{\cos x}{\sin^2 x} \, dx$

8. $\int \frac{\sin x}{\cos^4 x} \, dx$

9. $\int \frac{\sin x}{\sin^2 x + 5} \cos x \, dx$

10. $\int \frac{x}{\sqrt{x-2}} \, dx$

11. $\int \frac{\cos x}{\cos^2 x + 7} \sin x \, dx$

12. $\int \frac{x}{\sqrt{x+3}} \, dx$

13. $\int \frac{3}{x\sqrt{x-1}} \, dx$

14. $\int \frac{1}{x + \sqrt{x}} \, dx$

0.2 By parts

1. $\int x \cos x \, dx$

2. $\int x^2 e^x \, dx$

3. $\int \ln x \, dx$

4. $\int x e^x \, dx$

5. $\int x \ln x \, dx$

6. $\int x^2 \sin x \, dx$

7. $\int x^2 \ln x \, dx$

8. $\int x \cos 3x \, dx$

9. $\int \operatorname{arctg} x \, dx$

10. $\int x \operatorname{arctg} x \, dx$

11. $\int x e^{-x} \, dx$

12. $\int x \sin 2x \, dx$

0.3 Definite integrals

1. $\int_0^1 (x^2 + x + 2) \, dx$

2. $\int_0^2 (x^2 + 1) \, dx$

3. $\int_1^2 (2x + 1) \, dx$

4. $\int_1^2 (x^3 - 2x + 1) \, dx$

5. $\int_0^1 (x^3 - 3x^2 + 1) \, dx$

6. $\int_1^2 \frac{x^3 + 2x + 3}{x^2} \, dx$

7. $\int_0^\pi x \cos x \, dx$

8. $\int_0^1 x e^{x^2+1} \, dx$

9. $\int_0^3 \frac{x}{\sqrt{x+1}} \, dx$