

<p style="text-align: center;"><b>Integration by Substitution</b> See page 395 for tips</p>
---

Name : \_\_\_\_\_

1. Use integral by substitution to evaluate  $\int \sqrt{2x+1} dx$ . **Answer :**  $\frac{1}{3}(2x+1)^{3/2} + C$

2. Use integral by substitution to evaluate  $\int \frac{x}{\sqrt{1-4x^2}} dx$ . **Answer :**  $-\frac{1}{4}\sqrt{1-4x^2} + C$

3. Use integral by substitution to evaluate  $\int x^3 \cos(x^4 + 2)dx$ . **Answer :**  $\frac{1}{4} \sin(x^4 + 2) + C$

4. Use integral by substitution to evaluate  $\int e^{5x}dx$ . **Answer :**  $\frac{1}{5}e^{5x} + C$

5. Use integral by substitution to evaluate  $\int_1^2 \frac{1}{(3-5x)^2} dx$ . **Answer :**  $\frac{1}{14}$

6. Use integral by substitution to evaluate  $\int_1^e \frac{\ln x}{x} dx$ . **Answer :**  $\frac{1}{2}$

7. Use integral by substitution to evaluate  $\int_0^\pi \sec^2(t/4)dx$ . **Answer : 4**

8. Use integral by substitution to evaluate  $\int_e^{e^4} \frac{1}{x\sqrt{\ln x}}dx$ . **Answer : 2**