

Integrate each of the following.

1. $\int \sin(5x) dx =$ _____

2. $\int \cos(3x + 1) dx =$ _____

3. $\int \sec^2(1 - 3x) dx =$ _____

4. $\int \sec(x + 1) \tan(x + 1) dx =$ _____

5. $\int \csc^2(2x + 3) dx =$ _____

6. $\int \csc(3x) \cot(3x) dx =$ _____

7. $\int x \sin(x^2) dx =$ _____

8. $\int x \sec^2(1 - x^2) dx =$ _____

9. $\int x^2 \csc^2(4x^3 + 1) dx =$ _____

10. $\int x^2 \cos(5x^3 - 3) dx =$ _____

11. $\int x^3 \csc(1 - x^4) \cot(1 - x^4) dx =$ _____

12. $\int (x + 3) \sec(x^2 + 6x - 1) \tan(x^2 + 6x - 1) dx =$ _____

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Integrate each of the following.

$$13. \int \frac{\sin \sqrt{x} \, dx}{\sqrt{x}} = \underline{\hspace{2cm}}$$

$$14. \int \frac{\sec^2 \sqrt{2x-1} \, dx}{\sqrt{2x-1}} = \underline{\hspace{2cm}}$$

$$15. \int \sin^5 x \cos x \, dx = \underline{\hspace{2cm}}$$

$$16. \int \tan^4 x \sec^2 x \, dx = \underline{\hspace{2cm}}$$

$$17. \int \cos^7(3x) \sin(3x) \, dx = \underline{\hspace{2cm}}$$

$$18. \int \sec^6 x \tan x \, dx = \underline{\hspace{2cm}}$$

$$19. \int \cot^3(5x) \csc^2(5x) \, dx = \underline{\hspace{2cm}}$$

$$20. \int \csc^4(1-2x) \cot(1-2x) \, dx = \underline{\hspace{2cm}}$$