

Calculus Review Unit 9 page 1 \_\_\_\_\_

Integrate each of the following.

1.  $\int (3x^2 + 4x - 2) dx =$  \_\_\_\_\_

2.  $\int (3x - 5)^5 dx =$  \_\_\_\_\_

3.  $\int \frac{x dx}{\sqrt{x^2 + 4}} =$  \_\_\_\_\_

4.  $\int \frac{dx}{\sqrt{6x + 1}} =$  \_\_\_\_\_

5.  $\int \sin(2x + 1) dx =$  \_\_\_\_\_

6.  $\int \cos(5x) dx =$  \_\_\_\_\_

7.  $\int \sec^2(5x) dx =$  \_\_\_\_\_

8.  $\int \csc(x) \cot(x) dx =$  \_\_\_\_\_

9.  $\int \cos^5 x \sin x dx =$  \_\_\_\_\_

10.  $\int \cot^4 x \csc^2 x dx =$  \_\_\_\_\_

11.  $\int \sec^4 x \tan x dx =$  \_\_\_\_\_

12.  $\int x(x + 5)^4 dx =$  \_\_\_\_\_

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**Integrate each of the following.**

13.  $\int \sin^3(x) dx =$  \_\_\_\_\_

14.  $\int \sin^2(x) dx =$  \_\_\_\_\_

15.  $\int \csc^4(x) dx =$  \_\_\_\_\_

16.  $\int \tan^2(x) dx =$  \_\_\_\_\_

## Calculus Review Unit 9 page 3

Integrate each of the following.

$$17. \int \frac{dx}{\sqrt{1-x^2}} = \underline{\hspace{2cm}}$$

$$18. \int \frac{xdx}{\sqrt{1-x^2}} = \underline{\hspace{2cm}}$$

$$19. \int \frac{xdx}{\sqrt{x-1}} = \underline{\hspace{2cm}}$$

$$20. \int \frac{dx}{x^2+1} = \underline{\hspace{2cm}}$$