

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Substitution with the Power Rule

Choose $u = g(x)$, convert the full differential factor, integrate in u , then substitute back and include $+ C$.

1.
$$\int (12 \cdot x + 2) \cdot (3 \cdot x^2 + x + 1)^{\frac{1}{2}} dx$$

2.
$$\int -1 \cdot (x - 2)^1 dx$$

3.
$$\int (6 \cdot x + 3) \cdot (3 \cdot x^2 + 3 \cdot x - 3)^{-2} dx$$

4.
$$\int -2 \cdot (-x + 3)^2 dx$$

5.
$$\int \frac{-2}{3} \cdot (-x + 3)^{\frac{3}{2}} dx$$

6.
$$\int -4 \cdot x \cdot (x^2 + 3)^{-3} dx$$

7.
$$\int 6 \cdot (-3 \cdot x + 2)^3 dx$$

8.
$$\int -2 \cdot x \cdot (-2 \cdot x^2 + 3)^{\frac{-1}{2}} dx$$

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9. $\int (2 \cdot x + 1) \cdot (2 \cdot x^2 + 2 \cdot x)^{-4} dx$

10. $\int \frac{-2}{3} \cdot (-x - 3)^4 dx$

11. $\int 6 \cdot x \cdot (2 \cdot x^2 + 1)^{\frac{-3}{2}} dx$

12. $\int \frac{-9}{2} \cdot (-3 \cdot x + 1)^{-2} dx$

13. $\int (12 \cdot x + 4) \cdot (-3 \cdot x^2 - 2 \cdot x)^1 dx$

14. $\int (-2 \cdot x - 3)^{-3} dx$

15. $\int \left(-2 \cdot x - \frac{3}{2}\right) \cdot (2 \cdot x^2 + 3 \cdot x - 2)^{\frac{1}{2}} dx$

16. $\int 4 \cdot (2 \cdot x - 1)^2 dx$
