Name : _____ Score : _____

Teacher : _____ Date : _____

Substitution in Indefinite Integrals

Find each indefinite integral using the substitution provided.

1) $\int \frac{10x - 35}{(x^2 - 7x + 10)^2}$; $u = x^2 - 7x + 10$

2) $\int \frac{4}{(-x + 3)^3}$; $u = -x + 3$

3) $\int \frac{2}{(x + 4)^3}$; $u = x + 4$

4) $\int \frac{3}{(x - 4)^4}$; $u = x - 4$

5) $\int \frac{4}{(x - 1)^4}$; $u = x - 1$

6) $\int \frac{-4x + 14}{(x^2 - 7x + 12)^3}$; $u = x^2 - 7x + 12$

7) $\int \frac{8x - 12}{(-x^2 + 3x + 10)^2}$; $u = -x^2 + 3x + 10$

8) $\int \frac{4x + 4}{(-x^2 - 2x)^3}$; $u = -x^2 - 2x$

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Substitution in Indefinite Integrals

Find each indefinite integral using the substitution provided.

9) $\int \frac{-10x - 15}{(-x^2 - 3x - 2)^2}$; $u = -x^2 - 3x - 2$

10) $\int \frac{-2}{(-x + 4)^2}$; $u = -x + 4$

11) $\int \frac{10x}{(-x^2 + 4)^2}$; $u = -x^2 + 4$

12) $\int \frac{-3}{(-x - 4)^3}$; $u = -x - 4$

13) $\int \frac{10x - 5}{(-x^2 + x + 2)^4}$; $u = -x^2 + x + 2$

14) $\int \frac{-6x - 18}{(x^2 + 6x + 9)^4}$; $u = x^2 + 6x + 9$

15) $\int \frac{-3}{(x - 2)^3}$; $u = x - 2$

16) $\int \frac{-4}{(-x - 1)^4}$; $u = -x - 1$

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Substitution in Indefinite Integrals

Find each indefinite integral using the substitution provided.

1) $\int \frac{10x - 35}{(x^2 - 7x + 10)^2}$; $u = x^2 - 7x + 10$

$\int \frac{5}{u^2}\,du$

2) $\int \frac{4}{(-x + 3)^3}$; $u = -x + 3$

$\int \frac{-4}{u^3}\,du$

3) $\int \frac{2}{(x + 4)^3}$; $u = x + 4$

$\int \frac{2}{u^3}\,du$

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$\int \frac{3}{u^4}\,du$

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7) $\int \frac{8x - 12}{(-x^2 + 3x + 10)^2}$; $u = -x^2 + 3x + 10$

$\int \frac{-4}{u^2}\,du$

8) $\int \frac{4x + 4}{(-x^2 - 2x)^3}$; $u = -x^2 - 2x$

$\int \frac{-2}{u^3}\,du$

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$\int \frac{3}{u^3}\,du$

13) $\int \frac{10x - 5}{(-x^2 + x + 2)^4}$; $u = -x^2 + x + 2$

$\int \frac{-5}{u^4}\,du$

14) $\int \frac{-6x - 18}{(x^2 + 6x + 9)^4}$; $u = x^2 + 6x + 9$

$\int \frac{-3}{u^4}\,du$

15) $\int \frac{-3}{(x - 2)^3}$; $u = x - 2$

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$\int \frac{4}{u^4}\,du$