Name : _____ Score : _____

Teacher : _____ Date : _____

Substitution in Indefinite Integrals

Find each indefinite integral using the substitution provided.

1) $\int \frac{10x - 5}{(-x^2 + x + 6)^2}$; $u = -x^2 + x + 6$

2) $\int \frac{-4x + 12}{(x^2 - 6x + 9)^4}$; $u = x^2 - 6x + 9$

3) $\int \frac{-8x}{(x^2 - 9)^2}$; $u = x^2 - 9$

4) $\int \frac{-6x - 15}{(x^2 + 5x)^3}$; $u = x^2 + 5x$

5) $\int \frac{6x - 18}{(x^2 - 6x + 5)^2}$; $u = x^2 - 6x + 5$

6) $\int \frac{8x - 16}{(-x^2 + 4x + 5)^3}$; $u = -x^2 + 4x + 5$

7) $\int \frac{-6x - 27}{(-x^2 - 9x - 20)^3}$; $u = -x^2 - 9x - 20$

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

Name : _____ Score : _____

Teacher : _____ Date : _____

Substitution in Indefinite Integrals

Find each indefinite integral using the substitution provided.

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

10) $\int \frac{-10x + 10}{(x^2 - 2x - 15)^4}$; $u = x^2 - 2x - 15$

11) $\int \frac{-8x - 20}{(-x^2 - 5x)^4}$; $u = -x^2 - 5x$

12) $\int \frac{8x + 40}{(x^2 + 10x + 25)^4}$; $u = x^2 + 10x + 25$

13) $\int \frac{-10x - 40}{(-x^2 - 8x - 16)^3}$; $u = -x^2 - 8x - 16$

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

15) $\int \frac{-10x + 20}{(-x^2 + 4x - 3)^2}$; $u = -x^2 + 4x - 3$

16) $\int \frac{-6x - 18}{(x^2 + 6x + 5)^3}$; $u = x^2 + 6x + 5$

Name : _____ Score : _____

Teacher : _____ Date : _____

Substitution in Indefinite Integrals

Find each indefinite integral using the substitution provided.

1) $\int \frac{10x - 5}{(-x^2 + x + 6)^2}$; $u = -x^2 + x + 6$

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

2) $\int \frac{-4x + 12}{(x^2 - 6x + 9)^4}$; $u = x^2 - 6x + 9$

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

3) $\int \frac{-8x}{(x^2 - 9)^2}$; $u = x^2 - 9$

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

4) $\int \frac{-6x - 15}{(x^2 + 5x)^3}$; $u = x^2 + 5x$

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

5) $\int \frac{6x - 18}{(x^2 - 6x + 5)^2}$; $u = x^2 - 6x + 5$

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

6) $\int \frac{8x - 16}{(-x^2 + 4x + 5)^3}$; $u = -x^2 + 4x + 5$

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

7) $\int \frac{-6x - 27}{(-x^2 - 9x - 20)^3}$; $u = -x^2 - 9x - 20$

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

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

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

Name : _____ Score : _____

Teacher : _____ Date : _____

Substitution in Indefinite Integrals

Find each indefinite integral using the substitution provided.

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

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

10) $\int \frac{-10x + 10}{(x^2 - 2x - 15)^4}$; $u = x^2 - 2x - 15$

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

11) $\int \frac{-8x - 20}{(-x^2 - 5x)^4}$; $u = -x^2 - 5x$

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

12) $\int \frac{8x + 40}{(x^2 + 10x + 25)^4}$; $u = x^2 + 10x + 25$

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

13) $\int \frac{-10x - 40}{(-x^2 - 8x - 16)^3}$; $u = -x^2 - 8x - 16$

$\int \frac{5}{u^3}\,du$

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

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

15) $\int \frac{-10x + 20}{(-x^2 + 4x - 3)^2}$; $u = -x^2 + 4x - 3$

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

16) $\int \frac{-6x - 18}{(x^2 + 6x + 5)^3}$; $u = x^2 + 6x + 5$

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