

King Saud University

College of Sciences

Department of Mathematics

106 Math Exercises

(12)

Quadratic Expressions

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Q . Evaluate the following integrals:

1)

$$\int \frac{1}{\sqrt{4x - x^2}} dx$$

2)

$$\int \sqrt{4x - x^2} dx$$

3)

$$\int \frac{1}{\sqrt{-x^2 + 10x - 21}} dx$$

4)

$$\int \frac{1}{\sqrt{x^2 + 2x + 5}} dx$$

5)

$$\int \frac{1}{\sqrt{8+2x-x^2}} dx$$

6)

$$\int_{-1}^1 \frac{1}{x^2+2x+5} dx$$

7)

$$\int \frac{1}{\sqrt{x^2 - 2x - 8}} dx$$

8)

$$\int \frac{1}{(x + 2)\sqrt{x^2 + 4x + 3}} dx$$

9)

$$\int \frac{1}{\sqrt{x^2 - 8x + 25}} dx$$

10)

$$\int \frac{1}{\sqrt{x^2 + 2x + 2}} dx$$

11)

$$\int \frac{1}{(x^2 - 8x + 25)^{3/2}} dx$$

12)

$$\int \frac{2x + 3}{x^2 + 2x + 5} dx$$

13)

$$\int \frac{x}{\sqrt{-x^2 - 2x + 3}} dx$$

14)

$$\int \sqrt{x(6-x)} dx$$

15)

$$\int \frac{1}{x^2 - 4x + 8} dx$$

16)

$$\int \sqrt{x^2 + 10x} dx$$