

## Homeworks for the 10<sup>th</sup> week

1. Compute

(a)  $\int_0^1 \frac{x}{x^2+3x+2} dx$

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

2. Compute

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

(b)  $\int \frac{1}{x^2-4x+4} dx$

(c)  $\int \frac{5x+2}{x^2+6x+9} dx$

3. Compute the area of the figure that is enclosed by the curves

$$y = x^2 - 3x, y = 2x - 6.$$

## Recommended exercises

1. Compute

(a)  $\int_1^e \frac{1+\ln x}{x} dx$

(b)  $\int \frac{x}{x^2-4x+4} dx$

(c)  $\int \frac{3x-2}{x^4-x^3} dx$

2. Compute the area of the figure that is enclosed by the curves

$$y = x^3, 2y = x.$$