

Name: \_\_\_\_\_

1. Find an antiderivative  $F(x)$  of the function

$$f(x) = x^2 + 6x.$$

Check your work by computing  $F'(x)$ .

2. Use your answer to the previous question to find the exact value of the definite integral:

$$\int_1^3 x^2 + 6x \, dx.$$

Name: \_\_\_\_\_

1. Find an antiderivative  $F(x)$  of the function

$$f(x) = 4x - x^2.$$

Check your work by computing  $F'(x)$ .

2. Use your answer to the previous question to find the exact value of the definite integral:

$$\int_1^4 4x - x^2 \, dx.$$

Name: \_\_\_\_\_

1. Find an antiderivative  $F(x)$  of the function

$$f(x) = 6x^2 - 5.$$

Check your work by computing  $F'(x)$ .

2. Use your answer to the previous question to find the exact value of the definite integral:

$$\int_2^4 6x^2 - 5 \, dx.$$

Name: \_\_\_\_\_

1. Find an antiderivative  $F(x)$  of the function

$$f(x) = 1 + x + x^2.$$

Check your work by computing  $F'(x)$ .

2. Use your answer to the previous question to find the exact value of the definite integral:

$$\int_2^5 1 + x + x^2 dx.$$