

## USING MATHCAD SYMBOLICS

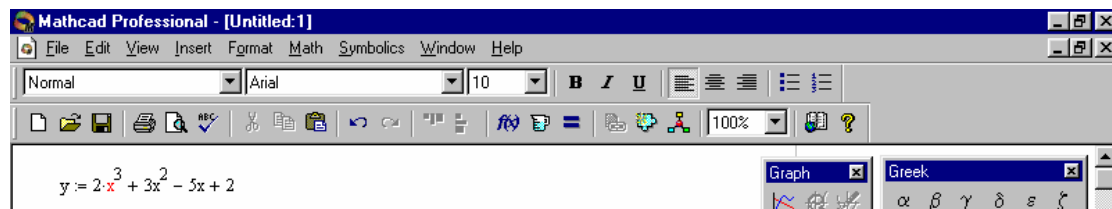
In this worksheet you will learn how to do the following.

- Differentiate expressions.
- Integrate expressions.
- Expand expressions.
- Convert expressions into partial fractions.

### DIFFERENTIATION AND INTEGRATION

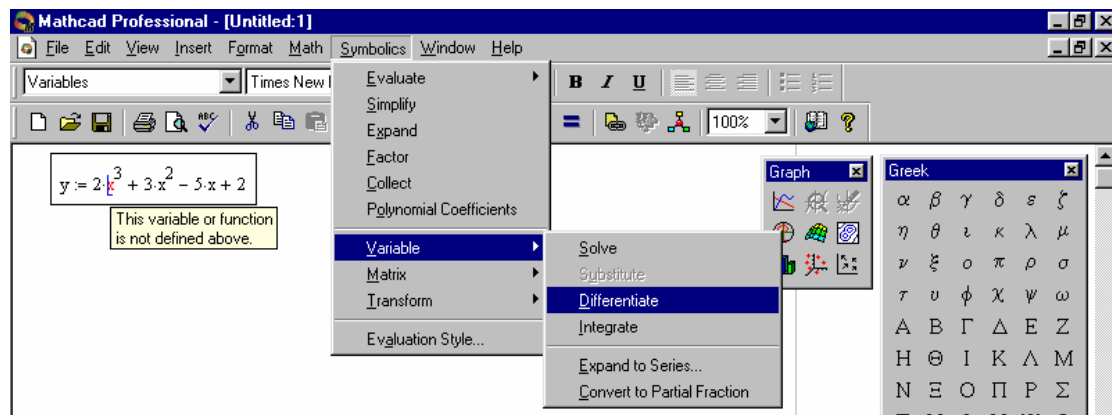
#### STEP 1

Enter the expression to be differentiated such as the one shown. The variable should show red.

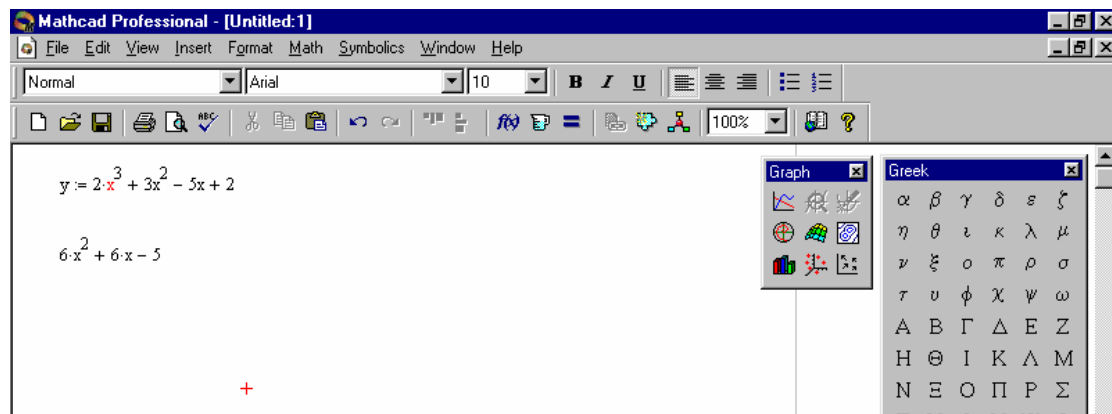


#### STEP 2

Place cursor next to the red variable and click on Symbolic, Variable, Differentiate



The expression is differentiated as shown.

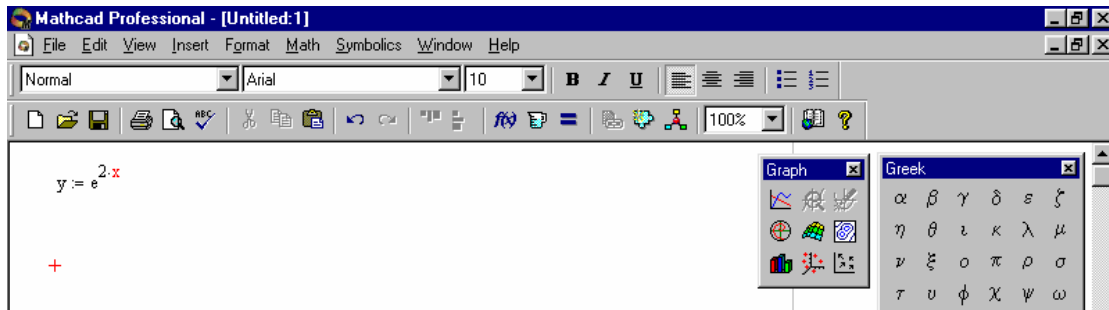


To integrate, click on integrate instead of differentiate.

## EXPANDING

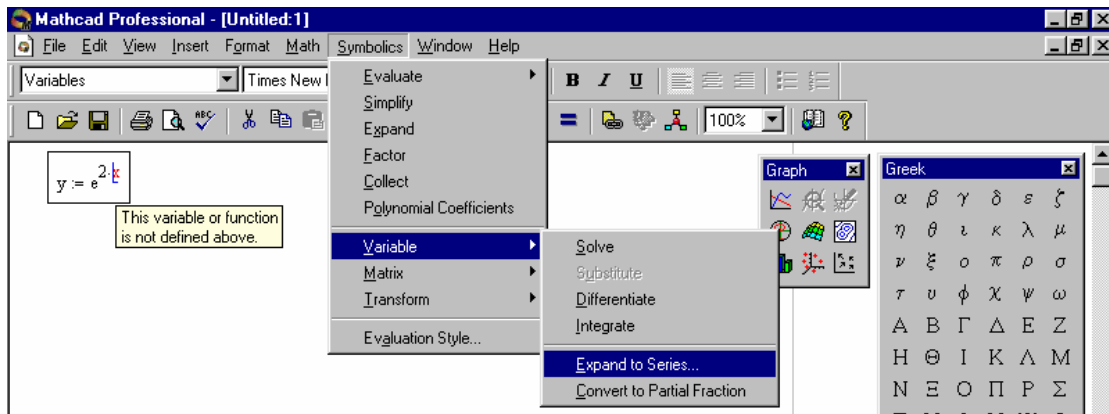
### STEP 1

Enter an expandable expression such as shown.

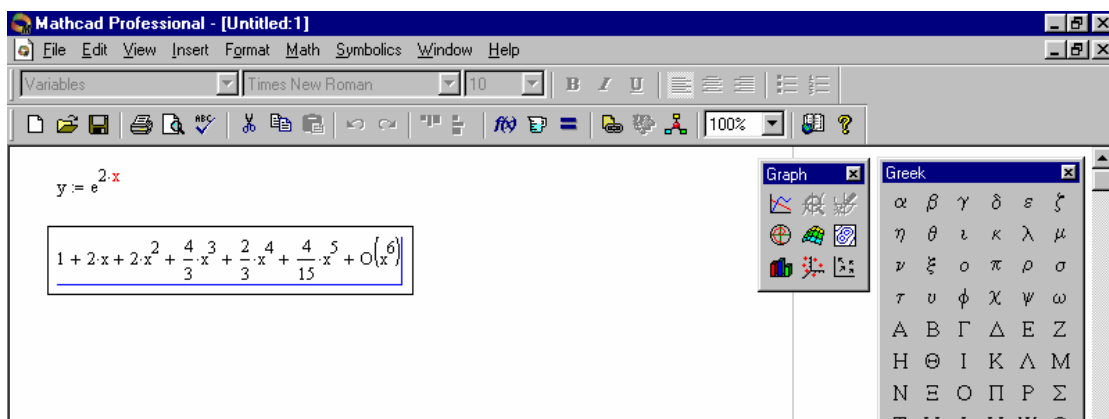


### STEP 2

Place cursor on red variable and click on Symbolic, Variable, Expand to Series



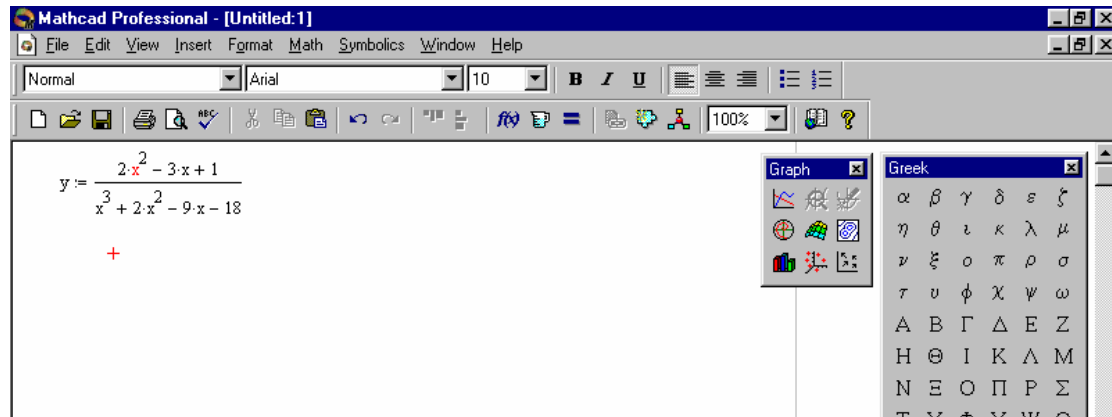
Enter the degree of approximation (default 6). The result is then displayed.



# PARTIAL FRACTIONS

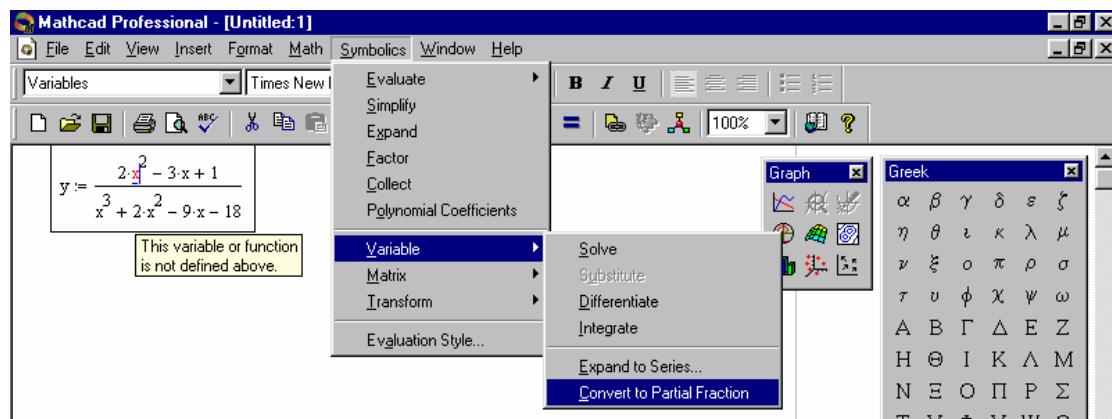
## STEP 1

Enter the expression to be used such as shown below.



## STEP 2

Place cursor on red variable and click on Symbolic, Variable, Convert to Partial Fraction.



The result is displayed instantly.

