

MA 541: Modern Algebra I / Fall 2019  
Sample matrices

A displayed matrix using `$$\begin{matrix} 4 & 5 \\ 6 & 7 \end{matrix}$$` looks like so:

$$\begin{matrix} 4 & 5 \\ 6 & 7 \end{matrix}$$

Often in math we prefer matrices surrounded by parentheses, so we can use `$$\begin{pmatrix} 4 & 5 \\ 6 & 7 \end{pmatrix}$$` instead:

$$\begin{pmatrix} 4 & 5 \\ 6 & 7 \end{pmatrix}.$$

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula. This is what this same matrix looks like in running text:  $\begin{pmatrix} 4 & 5 \\ 6 & 7 \end{pmatrix}$ .

Donec et nisl id sapien blandit mattis. Aenean dictum odio sit amet risus. Morbi purus. Nulla a est sit amet purus venenatis iaculis. Vivamus viverra purus vel magna. Donec in justo sed odio malesuada dapibus. Nunc ultrices aliquam nunc. Vivamus facilisis pellentesque velit. Nulla nunc velit, vulputate dapibus, vulputate id, mattis ac, justo. Nam mattis elit dapibus purus. Quisque enim risus, congue non, elementum ut, mattis quis, sem. Quisque elit.

That ends up being a bit big, so we can also use

`$$\left(\begin{smallmatrix} 4 & 5 \\ 6 & 7 \end{smallmatrix}\right)$$` instead. This looks like  $\left(\begin{smallmatrix} 4 & 5 \\ 6 & 7 \end{smallmatrix}\right)$ . Or we can define a new environment `psmallmatrix`, as I usually do:  $\left(\begin{psmallmatrix} 4 & 5 \\ 6 & 7 \end{psmallmatrix}\right)$ . Note that you need the `amsmath` package to use `smallmatrix`, but that package is built in if your documentclass is `amsart`.