

## Welcome to MathE Platform!

The editor uses Mathjax (<https://www.mathjax.org/>) to write questions and answers.

Some examples are:

- 1) Use  $\$...\$$  to write math format.

### \* Question [Preview]

Consider  $f(x)=x^2+e^{3x^2}$ .  
Calculate  $f'(x)$ .



#### Preview of the Question

Consider  $f(x) = x^2 + e^{3x^2}$ .  
Calculate  $f'(x)$ .

- 2) You can write some special letters as, for example,  $\mathbb{R}$ .

### \* Question [Preview]

Considering in  $\mathbb{R}^3$  the usual scalar product, the orthogonal projection of  $v=(1, -1, 2)$  on  $u=(2, 1, 1)$  is:

#### Preview of the Question

Considering in  $\mathbb{R}^3$  the usual scalar product, the orthogonal projection of  $v = (1, -1, 2)$  on  $u = (2, 1, 1)$  is:

3) To produce a table or matrix, you should use  $\begin{array}{...}...\end{array}$ .

\* Question [Preview]

```
\begin{array}{|l|c|c|c|}
\hline
\text{Project} & \text{N. of programmers} & \text{N. of analysts} & \text{N. of terminals} \\
\hline
A & 2 & 2 & 3 \\
B & 3 & 6 & 1 \\
\hline
\end{array}
```

The company wants to minimize the cost of developing projects in the next period. In the

Preview of the Question

A consulting firm will carry out two types of projects (A and B). The development cost per project A and B is respectively 1 and 2 monetary units. The requirements in terms of analysts, programmers and terminals for each type of project, are indicated in the following table:

Project	N. of programmers	N. of analysts	N. of terminals
A	2	2	3
B	3	6	1

The company wants to minimize the cost of developing projects in the next period. In the development of these projects, at least 10 programmers and 5 analysts should be used while the company only has 6 terminals available. In this situation, what are the decision variables to formalize the Linear Programming (LP) model that allows planning the company's activity?

4) To produce a matrix, you should use  $\begin{bmatrix}...\end{bmatrix}$ .

\* Question [Preview]

Suppose that  $A = \begin{bmatrix} 2 & 0 & -1 \\ 3 & 1 & 0 \\ -2 & 1 & 3 \end{bmatrix}$ .  
Find matrix  $B$  such that matrices  $A$  and  $B$  are inverses.

Preview of the Question

Suppose that  $A = \begin{bmatrix} 2 & 0 & -1 \\ 3 & 1 & 0 \\ -2 & 1 & 3 \end{bmatrix}$ .

Find matrix  $B$  such that matrices  $A$  and  $B$  are inverses.

5) You can use some operators, as for example,  $\int \cotan(x) dx$ .

\* Question [Preview]

Find  $\int \cotan(x) dx$

Preview of the Question

Find  $\int \cotan(x) dx$

6) Using the  $\frac{3-(9-4+1-7)}{2+5}$ :

\* Question [Preview]

Without the  $\frac{3-(9-4+1-7)}{2+5}$   $\frac{3-(9-4+1-7)}{2+5}$ .

With the  $\frac{3-(9-4+1-7)}{2+5}$   $\frac{3-(9-4+1-7)}{2+5}$

Preview of the Question

Without the  $\frac{3-(9-4+1-7)}{2+5}$   $\frac{3-(9-4+1-7)}{2+5}$ .

With the  $\frac{3-(9-4+1-7)}{2+5}$   $\frac{3-(9-4+1-7)}{2+5}$



7) Using the `\cdot`:

\* Question [Preview]

Consider  $x=(1,2,3)$  and  $y=(-1,2,0)$ .  
Calculate  $\lt x \cdot y \gt$ .



#### Preview of the Question

Consider  $x = (1, 2, 3)$  and  $y = (-1, 2, 0)$ .  
Calculate  $\lt x \cdot y \gt$ .

More information and help on the following websites:

- Mathematics Meta Stack Exchange: <https://math.meta.stackexchange.com/>
- Some examples of how to use MathJax:  
<https://math.meta.stackexchange.com/questions/5020/mathjax-basic-tutorial-and-quick-reference>