

Unit-#8 Public version (password required for opening the excel sheet)

[Assignments]

Read the following PDF file to learn about affine transformation.

<https://www5.dent.niigata-u.ac.jp/~nisiyama/grad/affine-e.pdf>

Download the following Excel sheet, enter the appropriate formula (Excel formula) in a cell with a red border and a yellow fill, and send the sheet with an email attachment.

<https://www5.dent.niigata-u.ac.jp/~nisiyama/grad/22-08-affine2D-e.xlsx>

You can open Excel file by today's password.

There are two assignments (exercises) in two sheets of Excel file.

In # 1, fill in the formula (cell B17, C17) equivalent to "the second row of the rotation matrix when rotating 30 degrees".

In # 2, first, please fill in the formula to convert the rotation angle from "degree" to "radian" unit (cell B18) and the formula corresponding to "the second column of the rotation matrix at arbitrary angle rotation" (cell C21, C22).

Next, the formula corresponding to the y coordinate of the point b rotated around the origin (cell C28), the formula corresponding to the x coordinate of point c (cell B29).

Finally, please fill in the formula for rotation around point b (cell B40, C38).

Enter the appropriate formula (the formula that starts with "=" in Excel format) in the applicable cell above.

In # 2, if you enter the appropriate formulas in order, the plot on the right will be completed automatically.