Name: ....

- Please complete the following definition: a subgroup H of a group G is said to be *normal in G* if

- Find all right cosets of $H = (gf)$ in S_3, where $gf = \begin{pmatrix} 1 & 2 & 3 \\ 1 & 3 & 2 \end{pmatrix}$.

  How many cosets of H are there? How many elements does each of them contain?

- Find all right cosets of $K = (f)$ in S_3, where $f = \begin{pmatrix} 1 & 2 & 3 \\ 2 & 3 & 1 \end{pmatrix}$.

  How many cosets of K are there? How many elements does each of them contain?