

Lesson 25

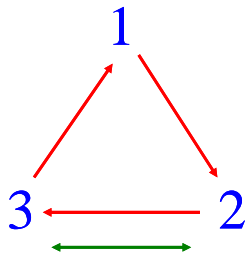
D3 GROUP

$$D_3 \cong S_3$$

Generators:

$(1,2,3), (2,3)$

Generator Diagram:



Order:

6

Elements:

$\{ (), (2, 3), (1, 2), (1, 2, 3), (1, 3, 2), (1, 3) \}$

Is Abelian?

No

Lesson 25

Subgroups (conjugates for a given order shown in the same, non-blue color):

$$\left\{ \begin{array}{l} () \\ (1,2) \\ (1,3) \\ (2,3) \\ (1,2,3) \\ (1,3,2) \end{array} \right\}$$

normal

$$\left\{ \begin{array}{l} () \\ (1,2,3) \\ (1,3,2) \end{array} \right\}$$

normal

commutator (derived)

even

$$\left\{ \begin{array}{l} () \\ (1,2) \end{array} \right\}$$

$$\left\{ \begin{array}{l} () \\ (1,3) \end{array} \right\}$$

$$\left\{ \begin{array}{l} () \\ (2,3) \end{array} \right\}$$

$$\{()\}$$

normal

center