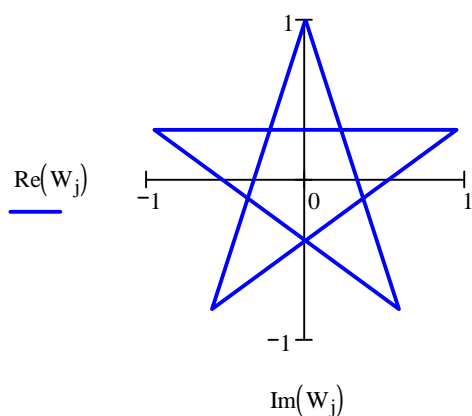


## 实验16 输出规则的平面图形

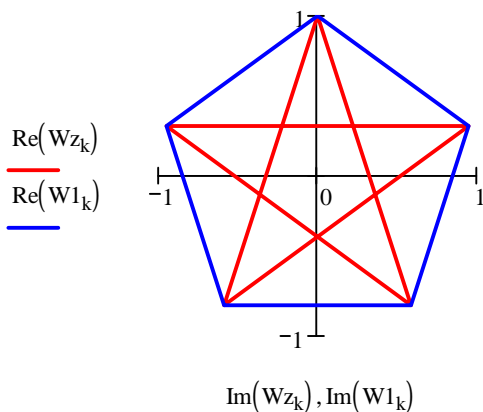
本工作页作输出某些平面图形的实验:

例1 定义向量数据产生五角星: 定义如下的复数值向量:

$$n := 5 \quad j := 0..n \quad W_j := \exp\left[2 \cdot \pi \cdot i \cdot \left(\frac{2 \cdot j}{n}\right)\right] \quad W = \begin{pmatrix} 1 \\ -0.809 + 0.588i \\ 0.309 - 0.951i \\ 0.309 + 0.951i \\ -0.809 - 0.588i \\ 1 \end{pmatrix}$$



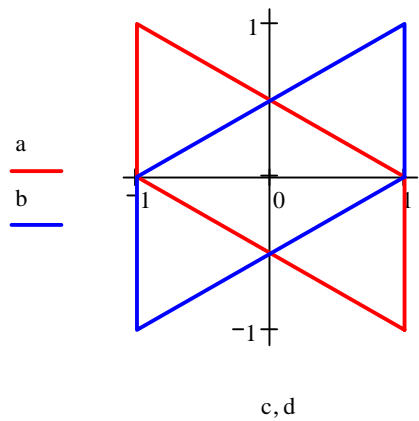
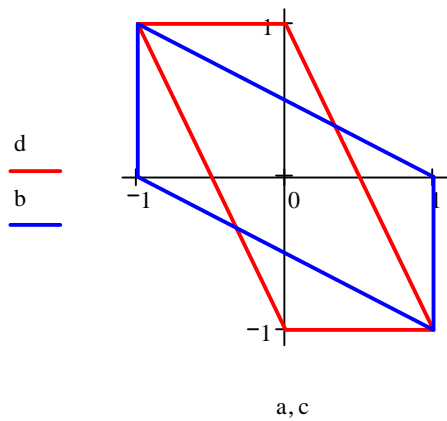
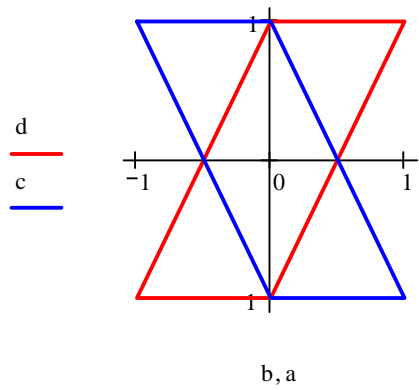
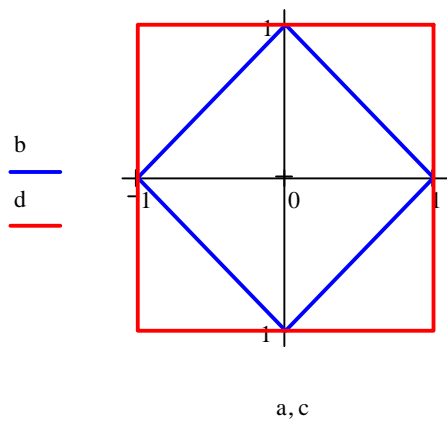
$$k := 0..n \quad c := \text{floor}\left(\frac{n}{2}\right) + 1 \quad d := \text{floor}(n) + 1 \quad W_{Z_k} := \exp\left[i \cdot \left(\frac{c}{n}\right) \cdot 2\pi \cdot k\right] \quad W_{1_k} := \exp\left[i \cdot \left(\frac{d}{n}\right) \cdot 2\pi \cdot k\right]$$



$$W_Z = \begin{pmatrix} 1 \\ -0.809 - 0.588i \\ 0.309 + 0.951i \\ 0.309 - 0.951i \\ -0.809 + 0.588i \\ 1 \end{pmatrix} \quad W_1 = \begin{pmatrix} 1 \\ 0.309 + 0.951i \\ -0.809 + 0.588i \\ -0.809 - 0.588i \\ 0.309 - 0.951i \\ 1 \end{pmatrix}$$

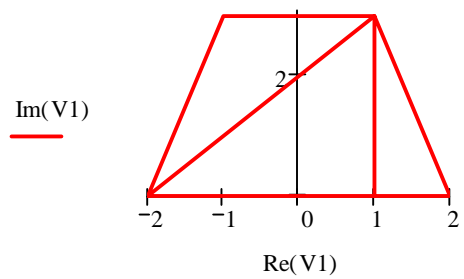
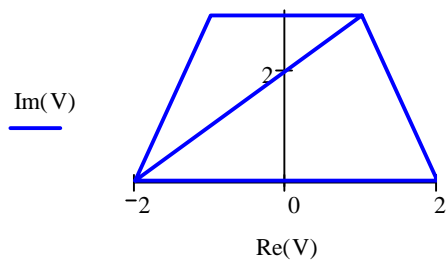
例1 定义向量数据产生如下图形: 定义数值向量:

$$a := \begin{pmatrix} -1 \\ 0 \\ 1 \\ 0 \\ -1 \end{pmatrix} \quad b := \begin{pmatrix} 0 \\ 1 \\ 0 \\ -1 \\ 0 \end{pmatrix} \quad c := (1 \ -1 \ -1 \ 1 \ 1)^T \quad d := (1 \ 1 \ -1 \ -1 \ 1)^T$$



$$V := (-2 \quad -1 + 3 \cdot i \quad 1 + 3 \cdot i \quad 2 \quad -2 \quad 1 + 3 \cdot i)^T$$

$$V1 := (-2 \quad -1 + 3 \cdot i \quad 1 + 3 \cdot i \quad 2 \quad -2 \quad 1 + 3 \cdot i \quad 1)^T$$



$$n := 6 \quad j := 0..n \quad W_j := \exp \left[ 2 \cdot \pi \cdot i \cdot \left( \frac{j}{n} \right) \right]$$

