

Exercice 8  
Série 5

c)

```
pointA := matrix([-1,2,-5]);  
pointB := matrix([5,4,0]);  
pointC := matrix([11,8,3]);  
vecBC := pointC - pointB;  
vecBA := pointA - pointB;  
vecP := linalg::scalarProduct(vecBA, vecBC)/norm(vecBC,2)^2*vecBC;  
vecN := vecBA - vecP;  
hauteur := norm(vecN,2);
```

$$\begin{pmatrix} -1 \\ 2 \\ -5 \end{pmatrix}$$

$$\begin{pmatrix} 5 \\ 4 \\ 0 \end{pmatrix}$$

$$\begin{pmatrix} 11 \\ 8 \\ 3 \end{pmatrix}$$

$$\begin{pmatrix} 6 \\ 4 \\ 3 \end{pmatrix}$$

$$\begin{pmatrix} -6 \\ -2 \\ -5 \end{pmatrix}$$

$$\begin{pmatrix} -\frac{354}{61} \\ -\frac{236}{61} \\ -\frac{177}{61} \end{pmatrix}$$

$$\begin{pmatrix} \frac{12}{61} \\ \frac{114}{61} \\ -\frac{128}{61} \end{pmatrix}$$

$$\frac{22 \cdot \sqrt{61}}{61}$$

La hauteur du triangle

```
float(hauteur)
```

```
2.816811359
```