Phys 2920, Fall 2008
Maple Pointers

Using vectors:

Define vectors **a** and **b** and find their dot and cross products,

$$r = \mathbf{a} \cdot \mathbf{b} \qquad \text{and} \qquad \mathbf{s} = \mathbf{a} \times \mathbf{b}$$

```
with(LinearAlgebra);
a:= <1., 2., 3.>;
b:= <-2., 5., 6.>;
r=a.b;
s=a &x b;
```

Matrices:

Setting up a matrix: Set up matrix z; find its inverse; multiply a vector.

```
z := Matrix([[1., 2., 3.], [-5., -3., 4.], [-1., 0., -3.]]);
w := MatrixInverse(z);
```

or

```
w := z^ (-1);
c = z.a;
```

Getting eigenvalues and eigenvectors:

```
Eigenvectors(a);
```

gives both eigenvalues and the eigenvectors, or

```
Eigenvalues(a);
```

just gives the eigenvalues.