> restart:with( student);

[D, Diff, Doubleint, Int, Limit, Lineint, Product, Sum, Tripleint, changevar, completesquare,
distance, equate, integrand, intercept, intparts, leftbox, leftsum, makeproc, middlebox, middlesum,
midpoint, powsubs, rightbox, rightsum, showtangent, simpson, slope, summand, trapezoid]

> limit((x^2-y^2)/(x^2+y^2), {x=0,y=0}); # why is it undefined
undefined

> y:=m*x:
> limit((x^2-y^2)/(x^2+y^2), x=0);
\[-\frac{-1 + m^2}{1 + m^2}\]

> restart:with( student); with(Student[VectorCalculus]):with( plots):

[D, Diff, Doubleint, Int, Limit, Lineint, Product, Sum, Tripleint, changevar, completesquare,
distance, equate, integrand, intercept, intparts, leftbox, leftsum, makeproc, middlebox, middlesum,
midpoint, powsubs, rightbox, rightsum, showtangent, simpson, slope, summand, trapezoid]
Warning, the assigned names <,> and <|> now have a global binding
Warning, these protected names have been redefined and unprotected: *, +, -, .., D, Vector, diff, int, limit, series
Warning, the name changecoords has been redefined

> limit( limit((x^2-y^2)/(x^2+y^2), x=0), y=0);
-1

> s1:=plot3d((x^2-y^2)/(x^2+y^2), x = -1..1,y=-1 .. 1, color=red,axes=boxed):
> s2:=SpaceCurve( <0,0,t>, t=-2..1,color=green,axes=boxed):
s3:=SpaceCurve( <0,t,-1>, t=-1..1,color= blue,axes=boxed ):
> display3d(s1,s2,s3);