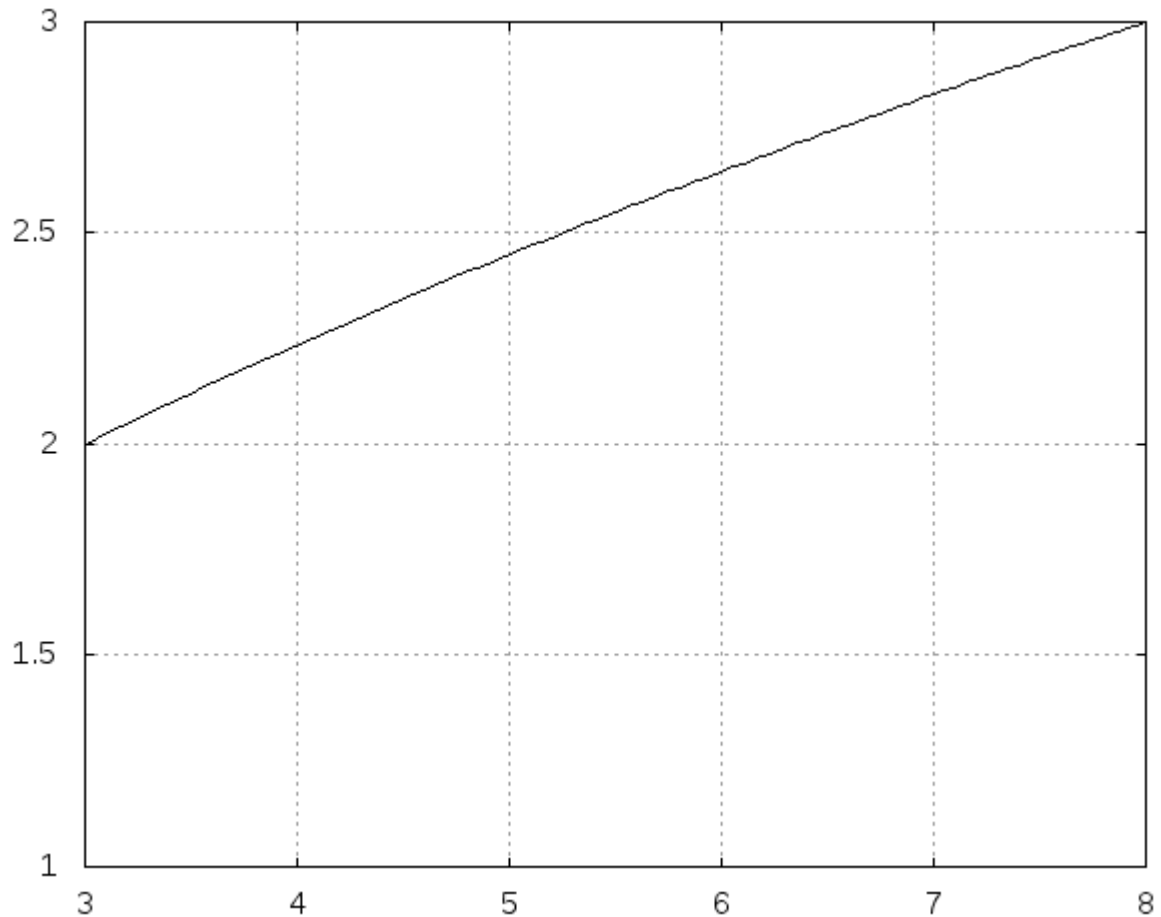

pyMaxima-Sitzung

22. September 2011, 07:56

(%i1) "LS, S. 234/Nr. 5a"\$

(%i2) draw2d(explicit((x+1)^0.5,x,3,8),explicit(1,x,3,8),xaxis = true,yaxis = true,grid =true)\$



(%i3) "(1) f(x) < g(x)?"\$

(%i4) f(x) := 1;

(%o4) f(x) := 1

(%i5) g(x) := (x+1)^0.5;

(%o5) g(x) := (x + 1)^{0.5}

(%i6) f(2);

(%o6) 1

(%i7) g(2);

(%o7) 1.732050807568877

(%i8) "Also g(x) > f(x) auf I = [3;8]"\$

(%i9) "(2) Berechne Rotationsintegral"\$

(%i10) FL_01 : integrate(%pi * ((x+1)^0.5)^2,x,3,8);

(%o10)
$$\frac{65 \pi}{2}$$

(%i11) FL_02 : integrate(%pi * (1)^2,x,3,8);

(%o11)
$$5 \pi$$

(%i12) ergebnis : FL_01 - FL_02;

(%o12)
$$\frac{55 \pi}{2}$$

(%i13) ev(% ,numer);

(%o13) 86.39379797371932

(%i14) "Ergebnis: V = 55/2 %pi"\$