pyMaxima-Sitzung (7. Februar 2009)

(%i1) `23!;`

(%o1) 25852016738884976640000

(%i2) `diff(a^4+3*a^3-(1/a),a);`

(%o2) $$4\,a^3 + 9\,a^2 + \frac{1}{a^2}$$

(%i3) `diff(exp(x^2),x);`

(%o3) $$2\,x\,\%e^{x^2}$$

(%i4) `diff(sin(x) * cos(x),x);`

(%o4) $$\cos^2(x) - \sin^2(x)$$

(%i5) `diff(x * sin(x),x);`

(%o5) $$\sin(x) + x\,\cos(x)$$

(%i6) `integrate( x^5,x);`

(%o6) $$\frac{x^6}{6}$$

(%i7) `integrate((x+3*x^2)^4,x);`

(%o7) $$9\,x^9 + \frac{27\,x^8}{2} + \frac{54\,x^7}{7} + 2\,x^6 + \frac{x^5}{5}$$

(%i8) `taylor(exp(x),x,0,4);`

(%o8)/T/ $$1 + x + \frac{x^2}{2} + \frac{x^3}{6} + \frac{x^4}{24} + . . .$$

(%i9) `m:2;`

(%o9) 2

(%i10) `3*m^2;`

(%o10) 12

(%i11) `1/2 + 1/3 + 1/4 + 1/5 + 1/6;`

(%o11) $$\frac{29}{20}$$

(%i12) `(x+y) * (x-y);`

(%o12) $$(x - y)\,(y + x)$$

(%i13) `expand(%);`

(%o13) $$x^2 - y^2$$

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(%i14) solve(x^2-4*x-2=0,x);
(%o14)                 [x = 2 - sqrt(6), x = sqrt(6) + 2]

(%i15) solve(c+x*y=z,x);
                                    z - c
(%o15)                         [x = -----]
                                      y

(%i16) 2^4*4^2;
(%o16)                                256

(%i17) linsolve([-1*x+-3*y+4*z=a,-2*x+-4*y+3*z=a,4*x+3*y+3*z=a+2],[x,y,z]);
                                   6 a + 10          a + 4
(%o17)            [x = a + 2, y = - --------, z = - -----]
                                      7               7

(%i18) linsolve([2*x+-1*y+1*z=6*a,0*x+3*y+-1*z=a-2,1*x+3*y+-1*z=3],
       [x,y,z]);
                                 9 a - 12        25 a - 32
(%o18)            [x = 5 - a, y = --------, z = ---------]
                                    2               2

(%i19) linsolve([1*x+a*y=7,3*x+3*y=4],[x,y]);
                           4 a - 21         17
(%o19)                [x = --------, y = -------]
                           3 a - 3       3 a - 3

(%i20) functions;
(%o20)                                []

(%i21) plot2d ([parametric, cos(t), sin(t),
       [t, -%pi*2, %pi*2],[nticks, 80]])$
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