Tests for the REDUCE-TEX-Interface

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1	Integration	Mode: TeXindent	Tolerance: 1000
int(1+x+x**2,x);			

$$\frac{x \cdot \left(2 \cdot x^2 + 3 \cdot x + 6\right)}{6}$$

2	Integration	Mode: TeXindent	Tolerance: 1000
int(x**2*(2*x**2+x)**2,x);			

$$\frac{x^5 \cdot \left(60 \cdot x^2 + 70 \cdot x + 21\right)}{105}$$

3	Integration	Mode: TeXindent	Tolerance: 1000
int(x*(x**2+2*x+1),x);			

$$\frac{x^2 \cdot \left(3 \cdot x^2 + 8 \cdot x + 6\right)}{12}$$

4	Integration	Mode: TeXindent	Tolerance: 1000
int(1/x,x);			

$$\ln\left(x\right)$$

5	Integration	Mode: TeXindent	Tolerance: 1000
int((x+1)**3/(x-1)**4,x);			

$$\left(3 \cdot \ln\left(x-1\right) \cdot x^3 - 9 \cdot \ln\left(x-1\right) \cdot x^2 + 9 \cdot \ln\left(x-1\right) \cdot x - 3 \cdot \ln\left(x-1\right) - 6 \cdot x^3 - 2\right) / \left(3 \cdot \left(x^3 - 3 \cdot x^2 + 3 \cdot x - 1\right)\right)$$

6	Integration	Mode: TeXindent	Tolerance: 1000
int(1/(x*(x-1)*(x+1)**2),x);			

$$\left(\ln\left(x-1\right) \cdot x + \ln\left(x-1\right) + 3 \cdot \ln\left(x+1\right) \cdot x + 3 \cdot \ln\left(x+1\right) - 4 \cdot \ln\left(x\right) \cdot x - 4 \cdot \ln\left(x\right) + 2 \cdot x\right) / \left(4 \cdot \left(x+1\right)\right)$$

7	Integration	Mode: TeXindent	Tolerance: 1000
int((a*x+b)/((x-p)*(x-q)),x);			

$$\frac{\ln(p-x)\cdot a\cdot p+\ln(p-x)\cdot b-\ln(q-x)\cdot a\cdot q-\ln(q-x)\cdot b}{p-q}$$

8	Integration	Mode: TeXindent	Tolerance: 1000
int(1/(a*x**2+b*x+c),x);			

$$\frac{2\cdot\sqrt{4\cdot a\cdot c-b^2}\cdot\arctan\left(\frac{2\cdot a\cdot x+b}{\sqrt{4\cdot a\cdot c-b^2}}\right)}{4\cdot a\cdot c-b^2}$$

9	Integration	Mode: TeXindent	Tolerance: 1000
int((a*x+b)/(1+x**2),x);			

$$\frac{2\cdot\arctan(x)\cdot b+\ln\left(x^2+1\right)\cdot a}{2}$$

10	Integration	Mode: TeXindent	Tolerance: 1000
int(1/(x**2-2*x+3),x);			

$$\frac{\sqrt{2}\cdot\arctan\left(\frac{x-1}{\sqrt{2}}\right)}{2}$$

11	Integration	Mode: TeXindent	Tolerance: 1000
int(1/((x-1)*(x**2+1))**2,x);			

$$\begin{aligned}&\left(\arctan(x)\cdot x^3-\arctan(x)\cdot x^2+\arctan(x)\cdot x\right.\\&\quad-\arctan(x)+\ln\left(x^2+1\right)\cdot x^3-\ln\left(x^2+1\right)\cdot x^2\\&\quad+\ln\left(x^2+1\right)\cdot x-\ln\left(x^2+1\right)-2\cdot\ln(x-1)\cdot x^3\\&\quad\left.+2\cdot\ln(x-1)\cdot x^2-2\cdot\ln(x-1)\cdot x+2\cdot\ln(x-1)-x^3-2\cdot x+1\right)/\\&\left(4\cdot\left(x^3-x^2+x-1\right)\right)\end{aligned}$$

12	Integration	Mode: TeXindent	Tolerance: 1000
int(x/((x-a)*(x-b)*(x-c)),x);			

$$\begin{aligned}&\left(\ln(a-x)\cdot a\cdot b-\ln(a-x)\cdot a\cdot c-\ln(b-x)\cdot a\cdot b\right.\\&\quad\left.+\ln(b-x)\cdot b\cdot c+\ln(c-x)\cdot a\cdot c-\ln(c-x)\cdot b\cdot c\right)/\\&\left(a^2\cdot b-a^2\cdot c-a\cdot b^2+a\cdot c^2+b^2\cdot c-b\cdot c^2\right)\end{aligned}$$

13	Integration	Mode: TeXindent	Tolerance: 1000
int(x/((x**2+a**2)*(x**2+b**2)),x);			

$$\frac{-\ln\left(a^2+x^2\right)+\ln\left(b^2+x^2\right)}{2\cdot\left(a^2-b^2\right)}$$

14	Integration	Mode: TeXindent	Tolerance: 1000
int(x**2/((x**2+a**2)*(x**2+b**2)),x);			

$$\frac{\arctan\left(\frac{x}{a}\right)\cdot a-\arctan\left(\frac{x}{b}\right)\cdot b}{a^2-b^2}$$

15	Integration	Mode: TeXindent	Tolerance: 1000
int(x/((x-1)*(x**2+1)),x);			

$$\frac{2\cdot\arctan\left(x\right)-\ln\left(x^2+1\right)+2\cdot\ln\left(x-1\right)}{4}$$

16	Integration	Mode: TeXindent	Tolerance: 1000
int(x/(1+x**3),x);			

$$\frac{2\cdot\sqrt{3}\cdot\arctan\left(\frac{2\cdot x-1}{\sqrt{3}}\right)+\ln\left(x^2-x+1\right)-2\cdot\ln\left(x+1\right)}{6}$$

17	Integration	Mode: TeXindent	Tolerance: 1000
int(x**3/((x-1)**2*(x**3+1)),x);			

$$\left(-\left(4\cdot\ln\left(x^2-x+1\right)\cdot x\right)+4\cdot\ln\left(x^2-x+1\right)\right.$$
$$\left.+9\cdot\ln\left(x-1\right)\cdot x-9\cdot\ln\left(x-1\right)-\ln\left(x+1\right)\cdot x+\ln\left(x+1\right)-6\cdot x\right)/$$
$$\left(12\cdot\left(x-1\right)\right)$$

18	Integration	Mode: TeXindent	Tolerance: 1000
int(1/(1+x**4),x);			

$$\left(\sqrt{2}\cdot\left(-\left(2\cdot\arctan\left(\frac{\sqrt{2}-2\cdot x}{\sqrt{2}}\right)\right)+2\cdot\arctan\left(\frac{\sqrt{2}+2\cdot x}{\sqrt{2}}\right)\right.\right.$$
$$\left.\left.-\ln\left(-\left(\sqrt{2}\cdot x\right)+x^2+1\right)+\ln\left(\sqrt{2}\cdot x+x^2+1\right)\right)\right)/8$$

19	Integration	Mode: TeXindent	Tolerance: 1000
int(x**2/(1+x**4),x);			

$$\left(\sqrt{2}\cdot\left(-\left(2\cdot\arctan\left(\frac{\sqrt{2}-2\cdot x}{\sqrt{2}}\right)\right)+2\cdot\arctan\left(\frac{\sqrt{2}+2\cdot x}{\sqrt{2}}\right)\right.\right.$$
$$\left.\left.+\ln\left(-\left(\sqrt{2}\cdot x\right)+x^2+1\right)-\ln\left(\sqrt{2}\cdot x+x^2+1\right)\right)\right)/8$$

20	Integration	Mode: TeXindent	Tolerance: 1000
int(1/(1+x**2+x**4),x);			

$$\left(2\cdot\sqrt{3}\cdot\arctan\left(\frac{2\cdot x-1}{\sqrt{3}}\right)+2\cdot\sqrt{3}\cdot\arctan\left(\frac{2\cdot x+1}{\sqrt{3}}\right)\right.$$
$$\left.-3\cdot\ln\left(x^2-x+1\right)+3\cdot\ln\left(x^2+x+1\right)\right)/12$$

21	Integration	Mode: TeXindent	Tolerance: 1000
int(sin x**2/x,x);			

$$\frac{-ci\left(2\cdot x\right)+\ln\left(x\right)}{2}$$

22	Integration	Mode: TeXindent	Tolerance: 1000
int(x*cos(xi/sin(x))*cos(x)/sin(x)**2,x);			

$$\int\frac{\cos\left(\frac{\xi}{\sin(x)}\right)\cdot\cos\left(x\right)\cdot x}{\sin\left(x\right)^2}\,dx$$