

```

> 2+3;
5
> 123^456;
992500687720988567008314620574696326372959408198869005198162988813828671047493\
990779211286614261446380554242369362718724928003527416499021181438196726015699\
981001207904967595176364654458956257416098662099005001984071532446047789680169\
630280503102614176159144687299182406854878786176459769390634643579861657117309\
763994785076492286863414669671679101266533421349427448514638999274870924866109\
771461127635671016726459531321964814393398730170881404146612711985003332557130\
961423351514146306516830655187840812036784877030028020820912366035190262568806\
244996817813872275740354848312715156831237421490955692604636096559777009388445\
806119312464951662086955403136981400116380273225662526897808381363518287953142\
721621112222311709017156123557013475523715300136938553798348656670600146433024\
591004297836539669137830022907842834556282833554705299329560514844771293338811\
599302127586876027950885792304316616960102321873904366016141456032419023866634\
42520160735566561
> (a+b) * (a-b);
(a + b) (a - b)
> expand(%);
a^2 - b^2
> expand((a+b) * (a-b));
a^2 - b^2
> a^15-b^15;
a^15 - b^15
> factor(%);
(a - b) (a^4 + a^3 b + a^2 b^2 + a b^3 + b^4) (a^2 + a b + b^2) (b^8 - a b^7 + a^3 b^5 - a^4 b^4 + a^5 b^3 - a^7 b + a^8)
> (a+b+c)^4;
(a + b + c)^4
> collect(%, a);
a^4 + (4 b + 4 c) a^3 + (2 (b + c)^2 + (2 b + 2 c)^2) a^2 + 2 (b + c)^2 (2 b + 2 c) a + (b + c)^4
> simplify(%);
a^4 + 4 a^3 b + 4 a^3 c + 6 a^2 b^2 + 12 a^2 b c + 6 a^2 c^2 + 4 a b^3 + 12 a b^2 c + 12 a b c^2 + 4 a c^3 + b^4
+ 4 b^3 c + 6 b^2 c^2 + 4 b c^3 + c^4
> I*I;
-1
> (3+4*I) / (5+6*I);

```

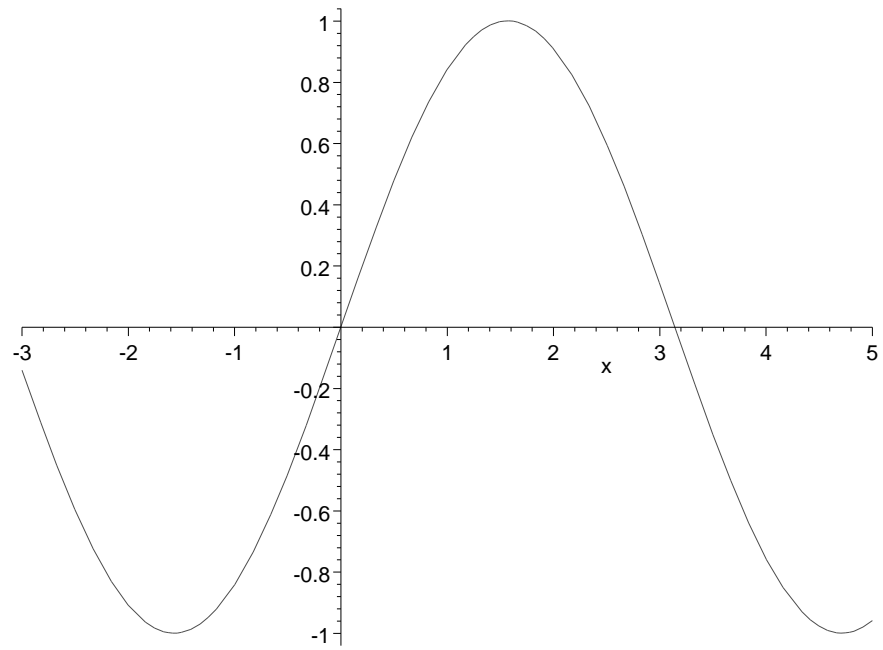


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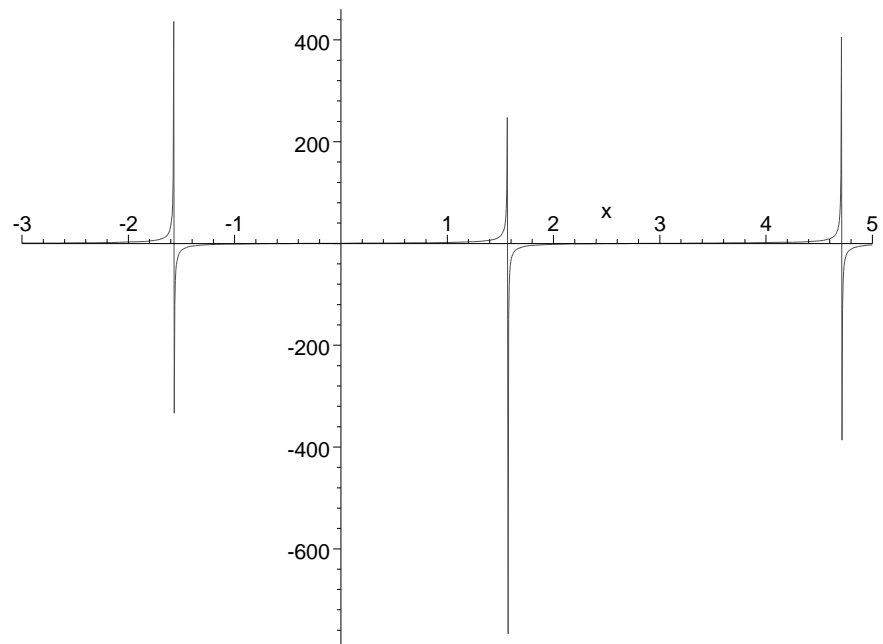

$$\sqrt{2} \sqrt{\pi} + \frac{1}{12} \frac{\sqrt{2} \sqrt{\pi}}{n} + \frac{1}{288} \frac{\sqrt{2} \sqrt{\pi}}{n^2} - \frac{139}{51840} \frac{\sqrt{2} \sqrt{\pi}}{n^3} - \frac{571}{2488320} \frac{\sqrt{2} \sqrt{\pi}}{n^4} + \frac{163879}{209018880} \frac{\sqrt{2} \sqrt{\pi}}{n^5}$$

+ O\left(\frac{1}{n^6}\right)
> f:=tan(a*x);
f:= tan(a x)
> diff(f,x);
(1 + tan(a x)^2) a
> diff(f,x,x);
2 tan(a x) (1 + tan(a x)^2) a^2
> diff(f,x$5);
88 (1 + tan(a x)^2)^2 a^5 tan(a x)^2 + 16 (1 + tan(a x)^2)^3 a^5 + 16 tan(a x)^4 (1 + tan(a x)^2) a^5
> int(f,x);
\frac{1}{2} \frac{\ln(1 + \tan(a x)^2)}{a}
> diff(%,x);
tan(a x)
> int(f,x=0..2*Pi/a);
0
> a:=1;
a := 1
> f;
tan(x)
> series(f,x=0,12);
x + \frac{1}{3} x^3 + \frac{2}{15} x^5 + \frac{17}{315} x^7 + \frac{62}{2835} x^9 + \frac{1382}{155925} x^{11} + O(x^{12})
> f;
tan(x)
> plot(sin(x),x=-3..5);

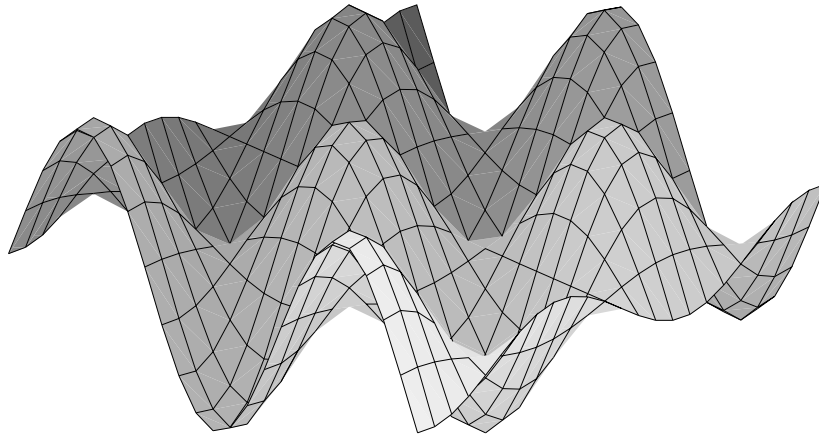
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```
> plot(tan(x), x=-3..5);
```



```
> plot3d(sin(x)*cos(y), x=-5..5, y=-5..5);
```



```
> solve(x^3-3*x+1=0, x);
```

$$\frac{1}{2}(-4+4I\sqrt{3})^{(1/3)} + 2\frac{1}{(-4+4I\sqrt{3})^{(1/3)}}, -\frac{1}{4}(-4+4I\sqrt{3})^{(1/3)} - \frac{1}{(-4+4I\sqrt{3})^{(1/3)}} + \frac{1}{2}I\sqrt{3}\left(\frac{1}{2}(-4+4I\sqrt{3})^{(1/3)} - 2\frac{1}{(-4+4I\sqrt{3})^{(1/3)}}\right) - \frac{1}{4}(-4+4I\sqrt{3})^{(1/3)} - \frac{1}{(-4+4I\sqrt{3})^{(1/3)}} - \frac{1}{2}I\sqrt{3}\left(\frac{1}{2}(-4+4I\sqrt{3})^{(1/3)} - 2\frac{1}{(-4+4I\sqrt{3})^{(1/3)}}\right)$$

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>
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