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Mathematica????????Abs[x]??x?????Random[]????[0,  
1]???????Factor[expr]???expr???????Plot[f[x], {x, xmin,  
xmax}]?????f????????????????????Solve[x<sup>2</sup>-2x+1==0, x]  
????????x????????D[f, x1, x2, x3]  
?????f??x1?x2?x3????????Integrate[f, {x, a,  
b}]?????f??x?x=a?x=b????????DSolve[{x''[t]-  
3x'[t]+8y'[t]+4y[t]==0, x'[t]-2y'[t]+7x[t]==3 Exp[t]}, {x[t], y[t]},

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Mathematica?MATLAB????????????????????????????????????????????????????????????

1. MATLAB????????????????????????????????Mathematica?????????
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??Mathematica????????????????????[????????????](#)  
????????????Mathematica????????????????????20??????????

1. ?????????Notebook????????In[ ]????????Out[ ]?????“Shift+Enter”??????
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3. ????????File-

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#### 4. Mathematica

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x0]?  
5. ?????????????????????????????????  
6. ?????  
Pi ??????  
E???????  
Degree????????????????Pi/180?  
l?????????-1?????  
7. ???????  
x=a?????x????a?  
x=y=b?????x?y?????b?  
x=.?Clear[x]?????x???  
Remove[f]???f???????  
8. ???????  
?xy????????????xy?  
?x y????????????x?y?  
3x???3?x?  
x3????x3?  
9. ?????????????[ ]????????????“( )”???  
10. ?????????????{ }???  
11. ?????????Mathematica????????????x/(1+7x)+y/(x-2)????????????  
12. ?????????  
Expand[expr]???expr???  
Factor[expr]???expr?????  
Simplify[expr]???expr?????????  
FullSimplify[expr]?Mathematica????????????expr?????????  
13. ???????  
Sin[x], Cos[x], Tan[x], Cot[x], Sec[x], Csc[x]????????????

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Sinh[x], Cosh[x], Tanh[x]???????

ArcSin[x], ArcCos[x], ArcTan[x]?????????

Sqrt[x]?????

Exp[x]?????

Log[x]????????Log[a, x]???a??????

Abs[x]??????

Round[x]?????x????

Floor[x]???????x??????

Ceiling[x]???????x??????

Max[a, b, c, ...]?Min[a, b, c, ...]????a?b?c?...?????????

14. ??????

$a=b$ ?????

$a \neq b$ ?????

$a > b$ ?????

$a \geq b$ ????????

$a < b$ ?????

$a \leq b$ ????????

15. ???????

$a^b$ ??????

$a+b+c$ ?????

$2+6i$ ????????

Conjugate[a+bi]????????

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16. ????????

Sum[f, {i, imin, imax}]?????

Sum[f, {i, imin, imax, di}]??????????i?di???

Product[f, {i, imin, imax}]?????

Product[f, {i, imin, imax, di}]??????????i?di???

17. ??????

D[f, x]?????f???x?????

D[f, x1, x2, ...]?????f???x1?x2?...?????

D[f, {x, n}]?????f???x??n????

D[f, x, NonConstants->{y, z, ...}]?????f???x???????y?z?...?x????

18. ??????

Integrate[f, x]?????f???x???????

Integrate[f, {x, xmin, xmax}]?????f???x???????

Integrate[f, {x, xmin, xmax}, {y, ymin, ymax}]?????f???x?y???????

19. ????????

Solve[lhs==rhs, x]???????lhs==rhs?x?????

Nsolve[lhs==rhs, x]???????lhs==rhs?????

Solve[{lhs1==rhs1, lhs2==rhs2, ...}, {x, y, ...}]???????x?y?????

NSolve[{lhs1==rhs1, lhs2==rhs2, ...}, {x, y, ...}]???????????????

FindRoot[lhs==rhs, {x, x0}]???????x0???lhs==rhs???

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