

(5-3*6)/(7+35-18*3)

diary on

a=3*5;b=((a-1)*6-3
c=a-b

pi
i
j
eps
NaN,
Inf,
ans

format long

clc

c=1-2j; d=3+5i
c/d

e=1+cos(pi/4)*i
format short

real(c)
imag(c)
angle(c)
angle(c)*180/pi
abs(c)
sqrt(c)

A=[2,1,1;1,2,1;1,1,2]
B=[4,1,0;1,4,1;0,1,4]
A(1,3)
A+B
A-B
A*B
ans'

det(A)
size(A)
size(A,1) size(A,2)
cond(A)
rank(A)
inv(A)

[L,U]=lu(A)
[V,D]=eig(A)

b=[4;4;4];
x=A\b

n=5;m=3;
eye(n)
zeros(n,m)
ones(n,m)

a=[1;2;3]; diag(a)

triu(A)
tril(A)
rand(n)
randn(n)
hilb(n)

x=0:0.1:1
x=pi*(0:0.1:1)
a=1:5
b=3:0.5:7;x=[a,b]

A([1,2],2)
A(1:2:3,:)
A(1:2:3,1:2:3)
A([1,2],[1,3])

exp([0:0.5:1])
abs([-5,pi,i])
asin([-1:0.5:1])
sin([-1:0.5:1])
sqrt(a)
sign([-3:3])

round([pi,exp(1)])
floor([pi,exp(1)])
ceil([pi,exp(1)])

a=[3,5,1,9,7];
max(a)
min(a)
sum(a)
sort(a)

x=-4:0.1:4;
y=sin(x);plot(x,y)
y=x.^2;plot(x,y)
plot(x,exp(x.^2))

t=0:0.001:2*pi;
x=cos(3*t); y=sin(2*t);plot(x,y)

y1=sin(x); y2=sin(2*x);y3=sin(4*x);
plot(x,y1,x,y2,x,y3)

x=-1:0.001:-0.2; y=0.01:0.001:1;
plot(x,exp(-1./x),y,1./y)

```

p=[1 0 1-i]; r=roots(p)
poly(r)
q=[1 0 -2 -5]; polyval(q,5)
c=conv(p,q)
[q,rest]=deconv(c,p)
q1=polyder(q)

```

```

x=1:5;y=[5 43 128 290 498];
p=polyfit(x,y,3)

```

```

x2=1:.1:5; y2=polyval(p,x2);
plot(x,y,'o',x2,y2)

```

```

% humps(x)=

$$\frac{1}{(x - 0.3)^2 + 0.01} + \frac{1}{(x - 0.9)^2 + 0.04} - 6$$

fplot('humps',[-5 5])

```

```

x=fminbnd('humps',0.3,1)

```

```

a=fzero('humps',-0.2)

```

```

humps(1)
humps(-1)
options=optimset('Display','iter');
a=fzero('humps',[-1,1],options)

```

```

syms x,
zae=3*x^2+6*x-1, nen=x^2+x-3,
f=zae/nen

```

```

subs(f,-x), simplify(ans),simplify(f)
ezplot(f)

```

```

limit(f,inf),limit(f,-inf)

```

```

subs(f,0),nstx=solve(zae)

```

```

nst=solve(nen)

```

```

limit(f,x,nst(1),'left')
limit(f,x,nst(1),'right')
limit(f,x,nst(2),'left')
limit(f,x,nst(2),'right')

```

```

f1=diff(f),simplify(f1),pretty(ans)
kritpkt=solve(f1)

```

```

f2=diff(f1), simplify(f2)
w1=double(subs(f2,kritpkt(1)))
w2=double(subs(f2,kritpkt(2)))

```

```

help pretty
helpwin pretty
doc pretty
who
whos
which a.mat
which a
exist a

```

Literatur:

z.B.

Ottmar Beucher:
Matlab und Simulink - Grundlegende
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Ingenieure in der Praxis
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