

```
pi
```

```
ans =  
    3.1416e+00
```

```
format long e  
pi
```

```
ans =  
    3.141592653589793e+00
```

```
3 + 1i
```

```
ans =  
    3.000000000000000e+00 + 1.000000000000000e+00i
```

```
log(-1)
```

```
ans =  
    0.000000000000000e+00 + 3.141592653589793e+00i
```

```
1/0
```

```
ans =  
    Inf
```

```
0/0
```

```
ans =  
    NaN
```

```
v = [ 1,2,3 ]
```

```
v = 1×3  
    1     2     3
```

```
w = [ 10; 20; 30; 40 ]
```

```
w = 4×1  
    10  
    20  
    30  
    40
```

```
v'
```

```
ans = 3×1  
     1  
     2  
     3
```

```
A = [ 1 3; 4 4; 0 -2 ]
```

```
A = 3x2
     1     3
     4     4
     0    -2
```

```
szA = size(A)
```

```
szA = 1x2
     3     2
```

```
szv = size(v)
```

```
szv = 1x2
     1     3
```

```
szw = size(w)
```

```
szw = 1x2
     4     1
```

```
lenv = length(v)
```

```
lenv =
     3
```

```
[w 2*w 3*w]
```

```
ans = 4x3
    10    20    30
    20    40    60
    30    60    90
    40    80   120
```

```
b = [5;6;7]
```

```
b = 3x1
     5
     6
     7
```

```
aug = [A b]
```

```
aug = 3x3
     1     3     5
     4     4     6
     0    -2     7
```

```
[A w]
```

Error using horzcat
Dimensions of arrays being concatenated are not consistent.

```
Z = zeros(3,5)
```

```
Z = 3×5
    0    0    0    0    0
    0    0    0    0    0
    0    0    0    0    0
```

```
N = ones(4,4)
```

```
N = 4×4
    1    1    1    1
    1    1    1    1
    1    1    1    1
    1    1    1    1
```

```
I = eye(3)
```

```
I = 3×3
    1    0    0
    0    1    0
    0    0    1
```

```
z = 1:6
```

```
z = 1×6
    1    2    3    4    5    6
```

```
zz = 3:5:20
```

```
zz = 1×4
    3    8   13   18
```

```
(5:-1:0)'
```

```
ans = 6×1
    5
    4
    3
    2
    1
    0
```

```
w(2)
```

```
ans =
    20
```

```
A
```

```
A = 3×2
    1    3
    4    4
    0   -2
```

```
A(3,1)
```

```
ans =  
    0
```

```
A(:,2)
```

```
ans = 3x1  
     3  
     4  
    -2
```

```
A([1 3],1)
```

```
ans = 2x1  
     1  
     0
```

```
A(end,:)
```

```
ans = 1x2  
     0    -2
```

```
A(end:-1:1,:)
```

```
ans = 3x2  
     0    -2  
     4     4  
     1     3
```

```
A(5)
```

```
ans =  
     4
```

```
C(3,3) = 7
```

```
C = 4x3  
     0     0     0  
     0     0     0  
     0     0     7  
    10     0     0
```

```
C(4,1) = 10
```

```
C = 4x3  
     0     0     0  
     0     0     0  
     0     0     7  
    10     0     0
```

```
C(:,10)
```

Index in position 2 exceeds array bounds (must not exceed 3).

A*(-1)

```
ans = 3x2
    -1    -3
    -4    -4
     0     2
```

M = magic(3)

```
M = 3x3
     8     1     6
     3     5     7
     4     9     2
```

M*A

M^2

```
ans = 3x3
    91    67    67
    67    91    67
    67    67    91
```

M.^2

```
ans = 3x3
    64     1    36
     9    25    49
    16    81     4
```

w.^2

```
ans = 4x1
    100
    400
    900
   1600
```

v.*v

```
ans = 1x3
     1     4     9
```

v - 3

```
ans = 1x3
    -2    -1     0
```

A + 6

```
ans = 3x2
```

```

7     9
10    10
6     4

```

M / M

```

ans = 3x3
     1     0     0
     0     1     0
     0     0     1

```

format short
M \ M

```

ans = 3x3
 1.0000  -0.0000     0
         0   1.0000     0
         0   0.0000  1.0000

```

M

```

M = 3x3
     8     1     6
     3     5     7
     4     9     2

```

M(:,2) = zeros(size(M,1),1)

```

M = 3x3
     8     0     6
     3     0     7
     4     0     2

```

M(:,2) = -1

```

M = 3x3
     8    -1     6
     3    -1     7
     4    -1     2

```

M.^(-1)

```

ans = 3x3
 0.1250  -1.0000  0.1667
 0.3333  -1.0000  0.1429
 0.2500  -1.0000  0.5000

```

1 ./ M

```

ans = 3x3
 0.1250  -1.0000  0.1667
 0.3333  -1.0000  0.1429
 0.2500  -1.0000  0.5000

```

W

```
w = 4x1
    10
    20
    30
    40
```

V

```
v = 1x3
    1    2    3
```

W + V

```
ans = 4x3
    11    12    13
    21    22    23
    31    32    33
    41    42    43
```

cos(pi)

```
ans = -1
```

log(2)

```
ans = 0.6931
```

log10(10)

```
ans = 1
```

e^3

Unrecognized function or variable 'e'.

exp(3)

```
ans = 20.0855
```

cos(v)

```
ans = 1x3
    0.5403   -0.4161   -0.9900
```

M = magic(5)

```
M = 5x5
```

17	24	1	8	15
23	5	7	14	16
4	6	13	20	22
10	12	19	21	3
11	18	25	2	9

```
sum(M)
```

```
ans = 1×5
    65    65    65    65    65
```

```
sum(M,2)
```

```
ans = 5×1
    65
    65
    65
    65
    65
```

```
mean(M)
```

```
ans = 1×5
    13    13    13    13    13
```

```
max(5,v)
```

```
ans = 1×3
     5     5     5
```