

```
% Name: Saleh Al Alsheikh
% KSU ID: 445102564
% Date: 17/2/2026
% clear;
% clc;
format short g
```

```
% Question 1
```

```
% a)
a=[0 0.25 0.50 0.75 1]
```

```
a = 1×5
      0      0.25      0.5      0.75      1
```

```
% b)
b=2:2:24
```

```
b = 1×12
      2      4      6      8     10     12     14     16     18     20     22     24
```

```
% c)
c=(-5:0.5:7)'
```

```
c = 25×1
     -5
    -4.5
     -4
    -3.5
     -3
    -2.5
     -2
    -1.5
     -1
    -0.5
      0
     0.5
      1
     1.5
      2
     ⋮
```

```
% d)
d=linspace(-3,3,6)
```

```
d = 1×6
     -3     -1.8     -0.6      0.6      1.8      3
```

```
% e)
e=linspace(2,10,20)'
```

```
e = 20x1
      2
      2.4211
      2.8421
      3.2632
      3.6842
      4.1053
      4.5263
      4.9474
      5.3684
      5.7895
      6.2105
      6.6316
      7.0526
      7.4737
      7.8947
      ⋮
```

```
% f)
f=linspace(-2*pi,2*pi,101)
```

```
f = 1x101
     -6.2832     -6.1575     -6.0319     -5.9062     -5.7805     -5.6549 ...
```

```
% Question 2
L=5
```

```
L =
      5
```

```
W=10000
```

```
W =
     10000
```

```
E=200*10^9
```

```
E =
     2e+11
```

```
I=5*10^-6
```

```
I =
     5e-06
```

```
x=linspace(0,L,10)
```

```
x = 1x10
      0      0.55556      1.1111      1.6667      2.2222      2.7778 ...
```

```
y=(W.*x)./(24*E*I).*(L^3-(2*L.*x.^2)+x.^3)
```

```
y = 1x10
      0      0.02826      0.05279      0.07073      0.080177      0.080177 ...
```

```
% Question 3
```

T0=95

T0 =  
95

Tenv=22

Tenv =  
22

K=0.05

K =  
0.05

t=0:2:10

t = 1×6  
0 2 4 6 8 10

T = Tenv + (T0 - Tenv).\*exp(-K .\* t)

T = 1×6  
95 88.053 81.767 76.08 70.933 66.277