

HW1 possible Answers

Problem 1.

```
y = cos(x)
    1.0000  0.9801  0.9211  0.8253  0.6967  0.5403  0.3624  0.1700 -0.0292]
min(y(y<0))
    -0.0292
max(y(y<0))
    -0.0292
sqrt(y(y>0))
    1.0000  0.9900  0.9597  0.9085  0.8347  0.7351  0.6020  0.4123
```

Problem 2.

```
phi = linspace(0, pi/2, 10)
theta = linspace(0, 2*pi, 24)
[iphi, itheta] = meshgrid(phi, theta)
b=3
x = b * (sin(iphi) .* cos(itheta))
y = b * (sin(iphi) .* sin(itheta))
z = b * cos(iphi)
mesh(x, y, z)
```

or

```
phi = linspace(0, 90, 10)
theta = linspace(0, 360, 24)
[iphi, itheta] = meshgrid(phi, theta)
b=3
x = b * (sind(iphi) .* cosd(itheta))
y = b * (sind(iphi) .* sind(itheta))
z = b * cosd(iphi)
mesh(x, y, z)
```

