Question 1

```
>> format long
>> sqrt(2)
ans =  1.414213562373095
>>
```

Answer:option 1

Question 2

```
>> format
>> A=[2 5;4 3];
>> b=[6;2];
>> A\b
ans =

  -0.57143
   1.42857
```

Answer:option 3

Question 3

Option 1

Question 4

```
clc
v=0;

for k=1:100
  t=k^2
  v=v+t

endfor
disp(v)
```

>> 338350

Answer:option 1

Question 5

```
clc
k=0.5;
v=0.5;
t=0;
while(abs (k)>10^(-8))
t=k^2;
k=t;
v=v+k;
```

```
endwhile
disp(v)

 0.81642
>>
```

Answer:option 1

Question 6

```
function y=deriv2(x,h)
  clc
  v=x+h;
  u=sin(v);
  l=(-2)*sin(x);
  t=sin(x-h);
  i=u+l+t;
  y=i/(h^2)
Endfunction

>> deriv2(pi/4,10^(-1))

y = -0.70652
ans = -0.70652
>>
```

Answer:solution 3

Question 7

```
clc
clear all
xprev = 0;
yprev = 0;
xall = [xprev];
yall = [yprev];
xmax = -inf
for k=1: 10000
  xnext = yprev*(1 + sin(0.7*xprev)) - (1.2 * sqrt(abs(xprev)));
  ynext = 0.21 - xprev;
  xall = [xall;xnext];
  yall = [yall;ynext];
  xprev = xnext;
  yprev = ynext;
  if xnext > xmax
    xmax = xnext
    yxmax = yprev
  endif
```

```
endfor
[xnext, ynext, xprev, yprev]
max(xall)
max(yall)
[xmax, yxmax]
plot(xall, yall)
```

Answer

```
xmax = -Inf
xmax = 0
yxmax =  0.21000
xmax =  0.21000
yxmax =  0.21000
xmax =  0.25719
yxmax =  0.20420
xmax =  0.29915
yxmax =  0.20981
xmax =  0.32955
yxmax =  0.20948
xmax =  0.33493
yxmax =  0.20979
ans =

  -0.36386   0.57396  -0.36386   0.57396

ans =  0.33493
ans =  1.0897
ans =

   0.33493   0.20979

>>
```

Outcome:solution 3

Question 8
Anser:solution 3

Question 9

```
clc
 r=5;

 t=0;

for k=0:100
 i=25/(sqrt((r^2)+(20*(pi^2))));
```

```
  t=t+i;
  r=r+0.01;
   disp('-------------------------')
Endfor
average=t/101
```

```
>>average =  1.6568
```

Answer:solution 2

Question 10

```
clc
clear all

A=ones(50,50);
for k=1:50
  for j=1:50
    if(k==j)
    A(k,j)=-0.5;
    endif
  endfor
endfor
B=inv(A);
B(1,2)
```

Answer

```
ans =  0.013746
>>
```

Outcome:solution 1