Problem 1

```
>> a=1.12

a =

    1.1200

>> b=2.34

b =

    2.3400

>> c=0.72

c =

    0.7200

>> d=0.81
```

```
d =

    0.8100

>> v=19.83

v =

   19.8300

>> factor=1+a/b+c/v^2

factor =

    1.4805

>> slope=(b-a)/(d-c)

slope =

   13.5556
```

```
>> resistance=1/((1/a)+(1/b)+(1/c)+(1/d))

resistance =

    0.2536
```

Problem 2

```
>> fTemp=48

fTemp =

    48

>> cTemp=(5/9)*(fTemp-32)

cTemp =

    8.8889
```

Problem 3

```
>> rng('shuffle')
>> rand*30

ans =

    6.9678

>> rand*(100-10)+10

ans =

   18.5359

>> randi(20)

ans =

    14

>> randi([0, 20])
```

```
ans =

     9
```

```
>> randi([30, 80])

ans =

    39
```

Problem 4

```
>> 4*10^3==4e3

ans =

  logical

   1
```

Problem 5

Part A

```
>> r=12

r =

    12

>> theta=pi/12

theta =

    0.2618

>> x=r*cos(theta)

x =

   11.5911

>> y=r*sin(theta)
```

```
y =

    3.1058
```

Part B

```
>> r=305

r =

   305

>> theta=55

theta =

    55

>> x=r*cosd(theta)
```

x =

174.9408

```
>> y=r*sind(theta)
```

y =

249.8414

Part C

```
>> x=8
```

x =

8

```
>> y=6
```

y =

6

```
>> r=sqrt(x^2+y^2)

r =

   10

>> theta=atan(y/x)

theta =

    0.6435
```

Part D

```
>> x=-3

x =
```

```
    -3

>> y=4

y =

     4

>> r=sqrt(x^2+y^2)

r =

     5

>> theta=atand(y/x)+180

theta =

  126.8699
```

Problem 6

```
>> g=nthroot(1.18*0.88*1.08, 3)


g =


    1.0390
```