MATHEMATICAL COMPUTING LAB
PROBLEM SHEET – 1

NAME: GOMATHI K
ROLL NO: 19PW10

1.
(a) >> (14.8.^2+6.5.^2)/(3.8.^2) + 55/(sqrt(2)+14)
ans = 21.6630
(b) >> (-3.5.^3)+exp(6)/log(524)+206.^(1/3)
ans = 27.4611

2.
(a) >> (16.5.^2)*(8.4-sqrt(70))/((4.3.^2)-17.3)
ans = 7.6412
(b) >> ((5.2.^3)-(6.4.^2)+3)/((1.6.^8)-2)+(13.3/5).^1.5
ans = 6.8450

3.
(a) >>15*((sqrt(10)+(3.7.^2))/(log10(1365)+1.9))
ans = 50.2041
(b) >> ((2.5.^3)*(16-(216/22)))/((1.7.^4)+14)+2050.^(1/4)
ans = 11.0501

4.
(a) >> ((2.3.^2)*1.7)/sqrt((1-(0.8.^2)).^2+(2-sqrt(0.87)).^2)
ans = 7.9842
(b) >> 2.34+(1/2)*2.7*((5.9.^2)-(2.4.^2))+9.8*log(51)
ans = 80.0894

5.
(a) >> sin(7*pi/9)/(cos(5*pi/7).^2)+(1/7)*tan(5*pi/12)
ans = 2.1867
(b) >> tand(64)/(cosd(14).^2)-(3*sind(80)/(0.9).^(1/3))+cosd(55)/sind(11)
ans = 2.1238

6.
>> x = 2.34
x = 2.3400

(a) >>2*(x.^4)-6*(x.^3)+14.8*(x.^2)+9.1
ans = 73.2258
(b) >> exp(2*x)/sqrt(14+x.^2-x)
ans = 26.0345

7.
>> t = 6.8
t = 6.8000

(a) >> log(abs((t.^2)-(t.^3)))
ans = 5.5917
(b) >> 75/(2*t)*cos(0.8*t-3)

ans = -4.2122

8.
>> x = 8.3
x = 8.3000
>> y = 2.4
y = 2.4000

(a) >> x.^2+y.^2-(x.^2/y.^2)
ans = 62.6899
(b) >> sqrt(x*y)-sqrt(x+y)+((x-y)/(x-2*y)).^2-sqrt(x/y)
ans = 2.1741

9.
>> a=13
a = 13
>> b=4.2
b = 4.2000
>> c=(4*b)/a
c = 1.2923
>> d=(a*b*c)/(a+b+c)
d = 3.8156

(a) >> (a*b)/(c+d)+(d*a)/(c*b)-(a-(b.^2))*(c+d)
ans = 43.5290
(b) >> sqrt(a.^2+b.^2)/(d-c)+log(abs(b-a+c-d))
ans = 7.8410

10.
>> ((1/2)*(3*pi)/5-sin(2*0.5*((3*pi)/5))/(4*0.5))-((1/2)*pi/9-sin(2*0.5*pi/9)/(4*0.5))
ans = 0.4634

11.
>> a=9
a = 9
>> b=3
b = 3

(a) >> 2*pi*sqrt((1/2)*(a.^2+b.^2))
ans = 42.1489
(b) >> a = sqrt(40)/pi
a = 2.0132

>> b = 2*a
b = 4.0263

12.
(a) >> sin(4*pi/9)
ans = 0.9848
>> 4*sin(pi/9)*cos(pi/9)-8*(sin(pi/9).^3)*cos(pi/9)
ans = 0.9848
(b) >> cos(2*pi/9)

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        ans =  0.7660
>> (1-tan(pi/9).^2)/(1+tan(pi/9).^2)
        ans =  0.7660
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13.

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(a) >> sqrt(50.^2-16.^2)
        ans =  47.3709
(b) >> acosd(47.371/50)
        ans =  18.6625
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14.

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>> A=2
A =  2
>> B=23
B =  23
>> C=13
C =  13
>> D=-24
D = -24
>> x0=8
x0 =  8
>> y0=3
y0 =  3
>> z0=-10
z0 = -10

>> abs(A*x0+B*y0+C*z0+D)/sqrt(A.^2+B.^2+C.^2)
        ans =  2.6042
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