Review for Introductory Unit

1) State the number of significant digits in each of the following:

a) 1000 b) 1000**.** c) 1000**.**0 d) 0**.**001

e) 0**.**101 f) 743 g) 0**.**7040 h) –70**.**0

i) 7**.**00 x 10^{-7} j) 7**.**005

2) Write the following in scientific notation

a) 4007900 b) -0.000 000 000 164 c) –70.94

d) 742.39 e) 0.00621 f) 700000

3) Calculate the following, express your answer in scientific notation with the correct significant figures.

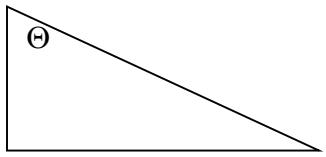
a) 0.00614 x 3200 = b) –4210 / 0.0640 =

c) 48 x 9600 / 2.00^5 = c) 0.0614 x π =

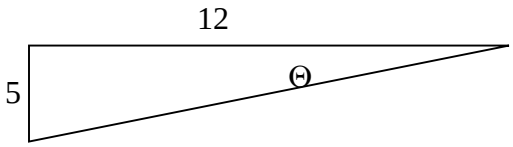
e) 96.3 – 0.62 = f) 78.4 + 1.002 =

4) Calculate the unknown angles

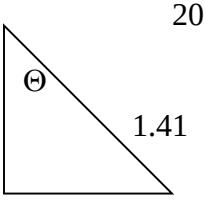
a)



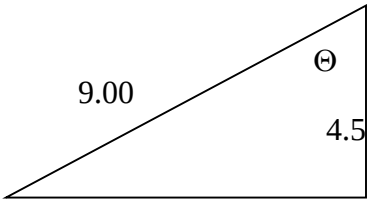
b)



b)

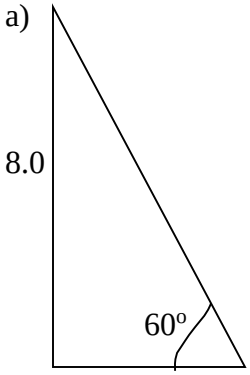


d)

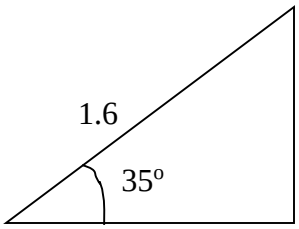


5) Calculate the unknown sides in the triangles below

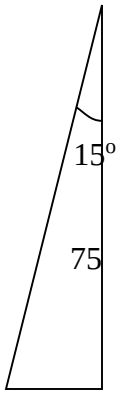
a)



b)



c)



6) Solve the following equations for the variable listed

a) solve for F

$F/m = a$

b) solve for I

$V = \varepsilon + IR$

c) solve for V_o

$V_f^2 = V_o^2 + 2ad$

d) solve for v

$\frac{v^2}{r} = \frac{4\pi^2 r}{T^2}$

e) solve for di

$\frac{1}{f} = \frac{1}{do} + \frac{1}{di}$

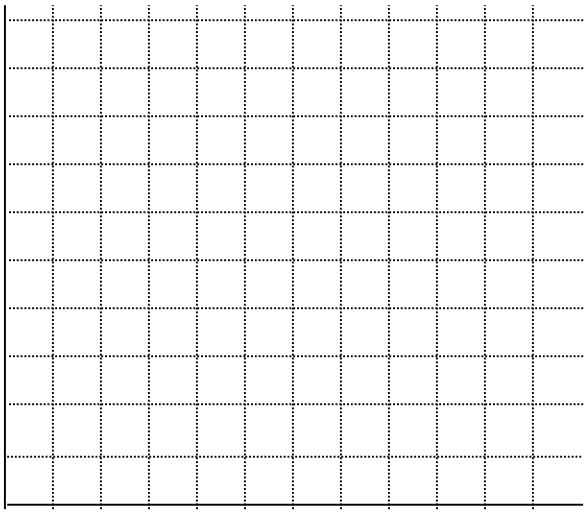
f) solve for g

$E = mgh$

7) Plot, graph, state shape of the curve and develop an equation for the following data:

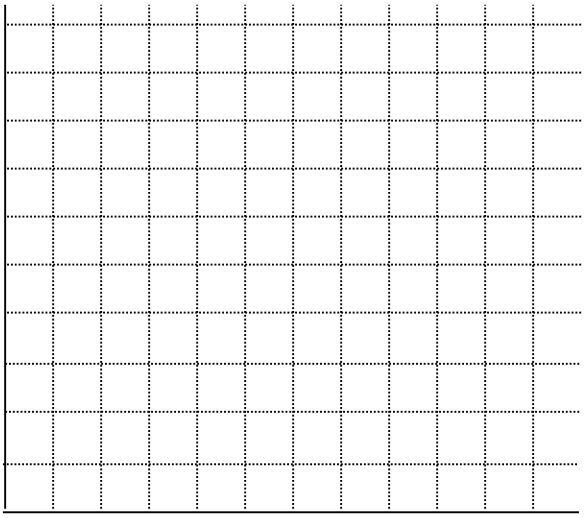
a)

velocity (m/s)	time (s)
5	0
4.5	1
4	2
3.5	3
2.5	4
2	5
1.5	6
1	7
0.5	8
0	9
-0.5	10



b)

distance (m)	time (s)	Time ^{2} (s^2)
2	0	
2.3	1	
3.2	2	
4.7	3	
6.8	4	
9.5	5	
12.8	6	
16.7	7	



8) Add a column to the distance – time table above for (time) ^{2}, then graph d vs. t^2 on the grid below. Find the slope.