1 [10 pts]

1.1 [6 pts]

1. $\frac{nh}{M}$
2. $0.1 = \frac{nh}{M} = \frac{nh}{20h} = \frac{n}{20} \rightarrow n = 0.1 * 20 = 2$

1.2 [4 pts]

A = 110011011 = [+1 +1 -1 -1 +1 +1 -1 +1 +1]
B = 100101111 = [+1 -1 -1 +1 -1 +1 +1 +1 +1]
+1 -1 +1 -1 -1 +1 -1 +1 +1 = $1 \neq 0$
Not Orthagonal

2 [5 pts]

$d = \frac{x}{\tan\alpha} + \frac{x}{\tan\beta}$
$x = \frac{d}{\frac{1}{\tan\alpha}+\frac{1}{\tan\beta}} = \frac{1000}{\frac{1}{\tan(\frac{\pi}{3})}+\frac{1}{\tan(\frac{\pi}{4})}}$

3 [5 pts]

Slot #	List of Winning Stations
Slot 1.	a,e,f,g,h
Slot 2.	a
Slot 3.	e,f,g,h
Slot 4.	e,f
Slot 5.	e
Slot 6.	f
Slot 7.	g,h
Slot 8.	g
Slot 9.	h

4 [10 pts]

4.1 [6 pts]

Face	List of Edges Being Traversed Using Face Routing
F_2	4
F_3	12,13
F_5	14,15

4.2 [4 pts]

List of Edges Being Traversed Using Compass Routing
4,9,10,11,14,15

5 [6 pts]

Network	Yes or No	If the answer is NO explain why
(a)	Yes	
(b)	No	A bridge can only connect 2 piconets

6 [4 pts]

$n(\frac{1}{n^2}) = \frac{n}{n^2} = \frac{1}{n}$

7 [5 pts]

1. $x_1 = 1 + (-1)^1 = 1 - 1 = 0$
   $x_2 = 2 + (-1)^2 = 2 + 1 = 3$
   $x_3 = 3 + (-1)^3 = 3 - 1 = 2$
2. No beacause $d_{x_1,x_{any}} > 1$