HW 1 MA 240 Alex Miller

1.) a) $q \to o$

b) $o \to (q \vee n)$

c) $(p \wedge n) \to o$

d) $\bar{o} \to (\bar{n} \vee \bar{q})$

2.) a) if triangle ABC is equiangular then triangle ABC is equilateral

b) triangle ABC is isosceles and triangle ABC is equiangular and triangle ABC is equilateral

c) triangle ABC is not equiangular and is equilateral

d) triangle ABC is equilateral if triangle ABC is equiangular and isosceles

e) triangle ABC is equilateral if triangle ABC is equiangular and vice versa

f.) triangle ABC is not isosceles if triangle ABC is not equiangular and not equilateral

3.) a) if you know calculus you can integrate

b) if you can not integrate you do not know calculus

c) if you do not know calculus you can not integrate

4.)

p	q	~q	~p	q→p	q←p	p∨~q	~p∧q
0	0	1	1	1	1	1	0
0	1	0	1	1	1	0	1
1	0	1	0	0	0	1	0
1	1	0	0	1	1	1	0

HW1 continued

5.)

p	q	$\sim p \vee \sim q$	$p \vee q$	$(\sim p \vee \sim q) \wedge (p \vee q)$	$p \oplus q$
0	0	1	0	0	0
0	1	1	1	1	1
1	0	1	1	1	1
1	1	0	1	0	0

7.) ? b)

no Gon HW lol

a	b	c	A's report	B's report	C's report
0	0	0	0	0	1
0	0	1	1	0	1
0	1	0	0	0	1
0	1	1	0	0	1
1	0	0	0	0	1
1	0	1	1	0	1
1	1	0	0	1	0
1	1	1	0	1	0

c) C

d.) A and C

e.) A: 1, B: 0, C: 1

8.)

F_{0011}	F_{0101}	F_{1010}	F_{1100}
F_3	F_5	F_{10}	F_{12}
0	0	1	1
0	1	0	1
1	0	1	0
1	1	0	0