

## Discrete Math I – Statistics/Announcements for Final Exam

Final Exam – Page 1				
P	Description	A %	M %	O
1a	True/false question about logical equivalences	95	100	2
1b	True/false question about quantifiers	62	100	2
1c	True/false question about irrational numbers	81	100	2
1d1	Number of elements in a power set	75	90	2
1d2	Number of elements in a Cartesian product	83	100	2
1e	Write the terms of a sequence	80	100	3
2	Mathematical proof that required you to use the contrapositive	76	85	15
3a	Composition evaluation	95	100	2
3b	Image of a set through a given function	87	95	3
3c	Preimage of a set through the same function	72	70	3
3d	Tough question about the fixed points of the function	47	50	2
4a	Which of the five given functions are 1-1?	85	80	5
4b	Which of the five given functions are onto?	73	70	4
5	Number of elements in a set	75	100	1
5a	Write elements in a set	84	100	4
5b	Write elements (ordered pairs) in a set	73	85	4
Ec1	Did you notice the extra credit opportunity buried in the directions? {16 students received all or some of the credit available}			0.5

Final Exam – Page 2				
P	Description	A %	M %	O
6a	Prime factorization of a permutation	60	60	3
6b	Modulus of a number	90	100	3
6c	True/false question about integers and divides	40	10	2
6d	Greatest common divisor of two numbers	80	100	3
6e	Another greatest common divisor of two numbers	90	90	3
6f	Product problem	80	90	3
6g1	Socks in a drawer, part 1	90	100	2
6g2	Socks in a drawer, part 2	90	100	2
Ec2	An Euler phi-function problem {two students received all or some of the credit available}			1.5
7	Extended Euclidean algorithm problem	90	100	10
8	Weak induction problem	60	80	10

Final Exam – Page 3				
P	Description	A %	M %	O
9	Proof using Pigeonhole Principle	70	80	8
10a	Basic counting question involving voting, part 1	92	100	4
10b	Basic counting question involving voting, part 2	95	100	4
Ec3	Find the form of a given sequence {1 student got it}			1.5
11a	Counting question about bits of a given length, part 1	92	100	4
11b	Counting question about bits of a given length, part 2	92	100	4
11c	Counting question about bits of a given length, part 3	59	50	3
11d	Counting question about bits of a given length, part 4	58	60	3
12a	Counting question about a club of 18 men and women	88	100	4
12b1	Counting question about selecting a committee for the club, part 1	92	100	4
12b2	Counting question about selecting a committee for the club, part 1	81	80	4
12b3	Counting question about selecting a committee for the club, part 1	85	100	4
12b4	Counting question about selecting a committee for the club, part 1	56	50	3

The final exams must remain in my office for one year. You can stop by anytime that you want to take a look at them.

Have a good break.