

Math 303, Fall 2011, Lecture 24

① The final exam

The final exam is Wednesday December 14
from 3:30 to 6:30

(bring a snack if you get hungry
around that time)

in A/Q 3153

It will have the same form as the midterm
but be half again as long

It will be about half material since the midterm
and about half material from before the midterm

My office hours after classes end will be

M

T

W

Th

F

Today

Dec 5

Dec 6

Dec 7

Dec 8

Dec 9

Usual
office
hours

(10-11
1-2
11:30-12:30)

Dec 12

Dec 13

Dec 14

[12-2]

[12-2]

Final
exam

② Review of the course

Before the midterm we

Zermelo
set theory

Russell's paradox

Axiom of choice
caused paradox

- Russell's paradox and the first axioms
- Constructors, \cap , $-$, ordered pairs, natural numbers
note needed a new axiom for ω
- Axiom of choice

- began logic and truth

After the midterm

logic
and
model
theory

Liar's paradox

- Lecture 14

Coher's rules, derivable
our axioms phrased in logic
don't memorize but know how to use them.

- Lecture 17

Relations, interpretations, and models
 \uparrow
relation symbols

ordinals

- Lecture 18 (result from model theory)
partial orders, minimal, smallest, maximal, largest
- Lecture 19 well orders, transfinite induction
ordinals (don't worry about the use of the axiom of replacement)
- Lecture 20 ordinals are transitive, properties of similarity
- Lecture 21 \leq on ordinals

Burali-Forti paradox

$\omega_2, \omega_3, \dots, \omega^2, \dots, \omega^\omega, \dots, \epsilon_0$

- Size:
- equivalence \sim
 - domination \neq
 - countability, finite and infinite

cardinals

crazy

• Lecture 22 Cantor diagonalization

$X \rightarrow \mathcal{P}(X)$

• Lecture 23 Cardinals, cardinality

$2^{\aleph_0} \stackrel{?}{=} \aleph_1$

Continuum hypothesis

Skolem's paradox

one last paradox to tie it all together

③ Questions ?

AG

Minor

average

7.68