

Midterm Quiz, CS 39, Oct. 16, 2017

Your Name: _____

Some easy, personal, warm-up questions:

In a typical week, how many times do you access
some of the web pages of CS 39? : _____

On your computer, do you have a bookmark that
leads directly to the CS 39 web pages? : ___ **(YES)** _____ **(NO)** ____

Brief questions requiring short (numerical or binary) answers:

How many edges are in the complete graph **K₈**? : _____

Can the bipartite “utility” graph **BG_{3,6}** (3 homes, 6 utilities)
be embedded crossing-free on a torus surface? : ___ **(YES)** _____ **(NO)** ____

How many group elements are there in
the symmetry class **D_{9h}**? : _____

What is the symmetry class of a typical **chair** (Not a barstool!),
both in **Schoenflies** notation – and in **Conway** notation? : _____ – _____

These questions also require a few words:

What is the maximal amount of symmetry that a closed handle-body
of **genus 9** may have? :
Give an example; explain. _____ : _____

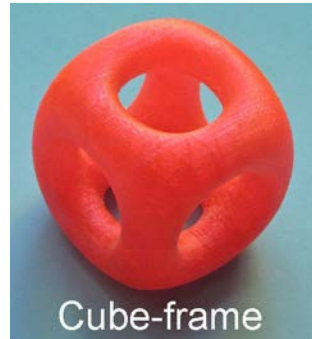
What is the maximal amount of symmetry that a closed handle-body
of **genus 11** may have? :
Give an example; explain. _____ : _____

Can you find a surface with **EC = genus = 0**? (Or is this not possible?)
Describe such a surface:
: _____

Can you find a surface with **EC = genus = 1**? (Or is this not possible?)
Describe such a surface:
: _____

<< Quiz continues on back-side.>>

Surface Analysis and Classification: Fill in the blanks below each image:



B = ___ S = ___ EC = ___ / B = ___ S = ___ EC = ___ / B = ___ S = ___ EC = ___

Symm.: ___ Genus= ___ / Symm.: ___ Genus= ___ / Symm.: ___ Genus= ___



B = ___ S = ___ EC = ___ / B = ___ S = ___ EC = ___ / B = ___ S = ___ EC = ___

Symm.: ___ Genus= ___ / Symm.: ___ Genus= ___ / Symm.: ___ Genus= ___