

3/5/02

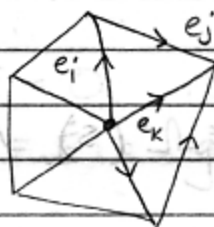
Relating "The Dream" table to what we did last year.

TQFT's

A can actually use category here

category  
w/ one  
object =  
monoid

• 2d TQFT's from <sup>certain</sup> algebras

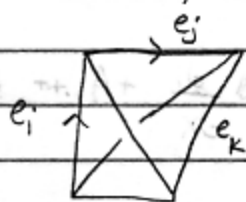


so we're at  $n=0, k=1$  on

chart - monoids (alg. are special case of monoids)

• 3d TQFT's from <sup>certain</sup> monoidal categories - a 1-object 2 cat.  
chop up into tetrahedra, calculate a # using  
associator

so we  
should try  
to get



3d TQFT's  
from  
2-categories

Note - we were using reps of  $SU(2)$ , so

$$j \otimes k \rightarrow l$$

3d TQFT - theory of quantum gravity in 3 dim'l spacetime

Top Secret guess: 2d triangulated QFT's come from  
certain 2-categories, so TQFT's are special case

3 Hilbert spaces

categories - 2 Hilbert spaces since Hilbert space is a  
special kind of set.