

Exam 2

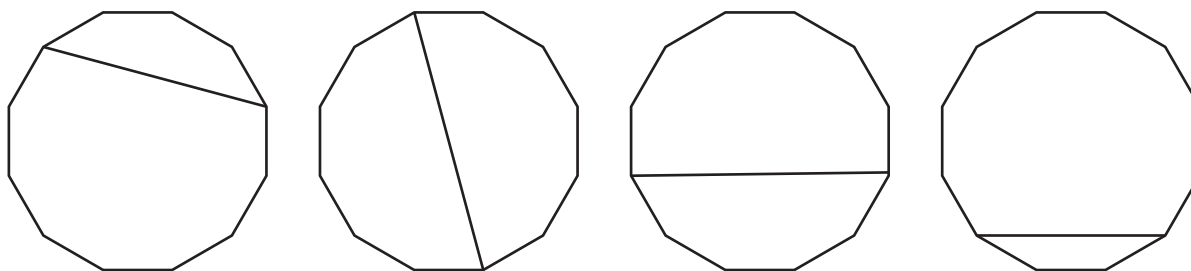
Combinatorics, Dave Bayer, March 6, 2014

Name: _____ Uni: _____

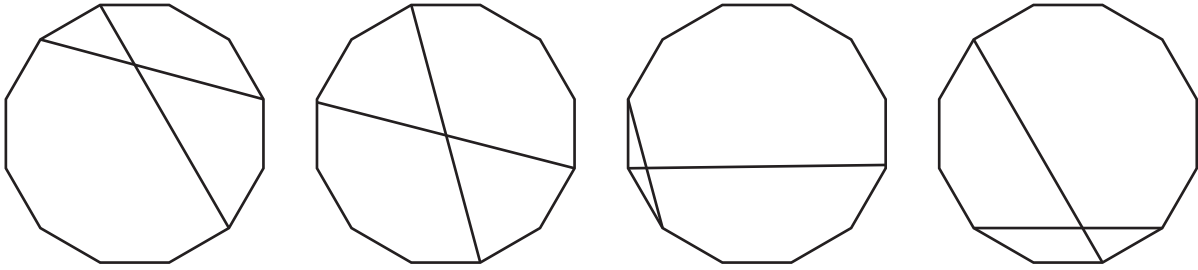
| [1] | [2] | [3] | [4] | [5] | Total |
|-----|-----|-----|-----|-----|-------|
| | | | | | |

If you need more than one page for a problem, clearly indicate on each page where to look next for your work.

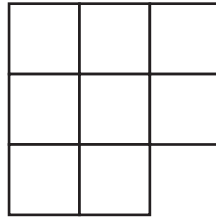
[1] How many ways can a 12-gon be dissected into two pieces, neither of which is a triangle?



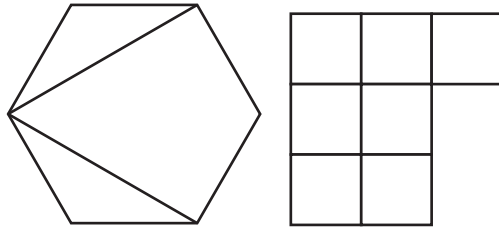
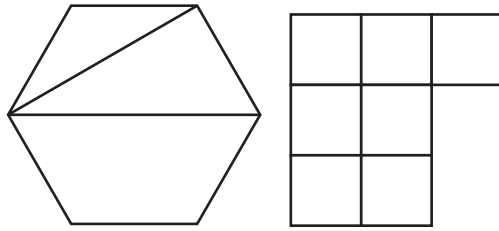
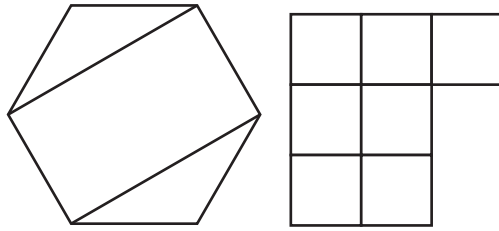
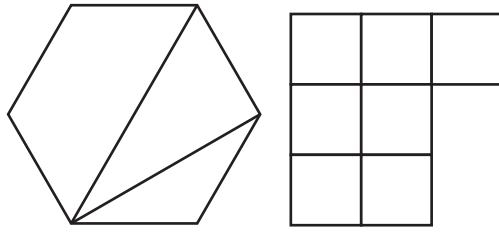
[2] How many ways can one draw two crossing interior edges, inside a 12-gon?



[3] How many standard Young tableaux are there of the following shape?

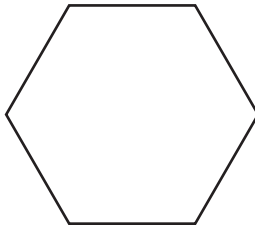


[4] Translate each of the following hexagon dissections into standard Young tableaux.

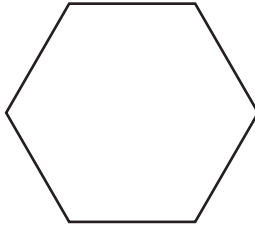


[5] Translate each of the following standard Young tableaux into hexagon dissections.

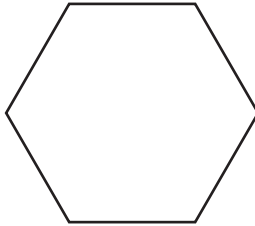
| | | |
|---|---|---|
| 1 | 2 | 7 |
| 3 | 4 | |
| 5 | 6 | |



| | | |
|---|---|---|
| 1 | 2 | 7 |
| 3 | 5 | |
| 4 | 6 | |



| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | |
| 6 | 7 | |



| | | |
|---|---|---|
| 1 | 4 | 7 |
| 2 | 5 | |
| 3 | 6 | |

