

The Basic Features.

3



rotation only

\$



rotation-reflection

Gotta
catch
'em
all!

M



free mirror-reflection

G



free glide-reflection



Theorem. There are precisely 17 patterns with which to tile the plane, no more, no less. They are all made of combinations of the 10 basic features, **2**, **3**, **4**, **6**, **2**, **3**, **4**, **6**, **M**, and **G**, as follows:

✓	Dror's	Conway's	crystallo- graphic	✓	Dror's	Conway's	crystallo- graphic
	2222	2222	p2		33	3*3	p31m
	333	333	p3		222	2*22	cmm
	442	442	p4		22M	22*	pmg
	632	632	p6		MM	**	pm
	2222	*2222	pmm		MG	*o	cm
	333	*333	p3m1		GG	oo	pg
	442	*442	p4m		22G	22o	pgg
	632	*632	p6m		∅	0	p1
	42	4*2	p4g				