

Sixteenth lecture

• GROUPS ACTING ON SETS

G acting on $X : g(x)$

$g \in G$ as a permutation of X

G 's action on $\{f : M \rightarrow \mathbb{N}\}$ ("colourings")

The orbit Gx

The stabilizer G_x

$$|G| = |Gx| \cdot |G_x|$$

Number of orbits: $\frac{1}{|G|} \sum_{g \in G} |F(g)|$

Groups with $|G| = p^n$