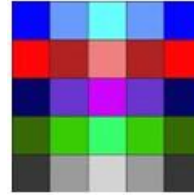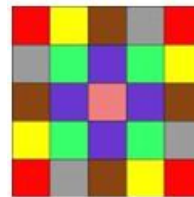Charlie has been designing tablecloths for each weekday. He likes to use **as many colours as he possibly can** but insists that his tablecloths have some symmetry.
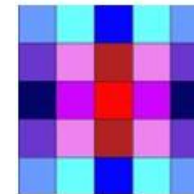
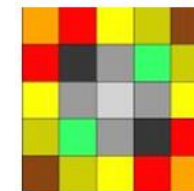Monday's 5 by 5 cloth has just 1 line of symmetry.

Tuesday's cloth has rotational symmetry of order 4 and no lines of symmetry.
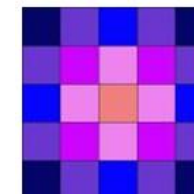

Wednesday's cloth has 2 lines of symmetry (horizontal and vertical).

Thursday's cloth has 2 (diagonal) lines of symmetry.

Friday's cloth has 4 lines of symmetry and rotational symmetry of order 4.

For each day of the week design a 7 by 7 and a 9 by 9 tablecloth that use as many colours as possible and follow the symmetry rules for the day.

For each day, can you find a way of working out how many colours would be needed for an n by n tablecloth (where n is odd)?

Extension: What happens if n is even?