

**(Proper) coloring** of a graph = a way of coloring the vertices so that no two adjacent vertices have the same color.

**$k$ -coloring** = a coloring that uses exactly  $k$  colors.

(If a  $k$ -coloring of  $G$  exists, say that  $G$  is  **$k$ -colorable**.)

**Chromatic number**  $\chi(G)$  = smallest  $k$  so that  $G$  is  $k$ -colorable.