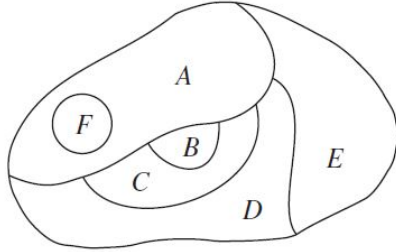


## 10.8 Graph Coloring

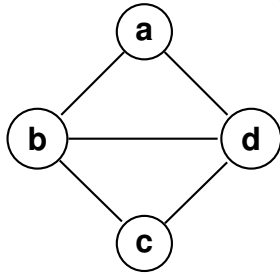
### 10.8 pg. 733 # 3

Construct the dual graph for the map shown. Then find the number of colors needed to color the map so that no two adjacent regions have the same color.



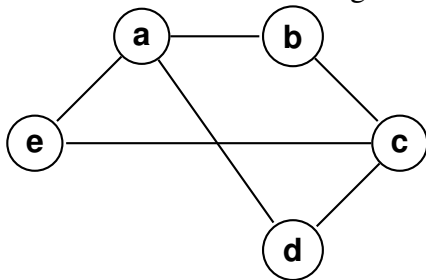
### 10.8 pg. 733 # 7

Find the chromatic number of the given graph.



### 10.8 pg. 733 # 9

Find the chromatic number of the given graph.



### 10.8 pg. 734 # 19

The mathematics department has six committees, each meeting once a month. How many different meeting times must be used to ensure that no member is scheduled to attend two meetings at the same time if the committees are  $C_1 = \{\text{Arlinghaus, Brand, Zaslavsky}\}$ ,  $C_2 = \{\text{Brand, Lee, Rosen}\}$ ,  $C_3 = \{\text{Arlinghaus, Rosen, Zaslavsky}\}$ ,  $C_4 = \{\text{Lee, Rosen, Zaslavsky}\}$ ,  $C_5 = \{\text{Arlinghaus, Brand}\}$ , and  $C_6 = \{\text{Brand, Rosen, Zaslavsky}\}$ ?