Written Test

Sample (4) Answer

Five circles A, B, C, D and E are connected as shown in Figure (a). (Note: 'Two circles are connected' means two separate circles are connected by a straight line.) Each circle is to be coloured and no two connected circles have the same colour.   Now you have three different colours for colouring the circles. How many different colouring patterns can be done on Figure (a)?
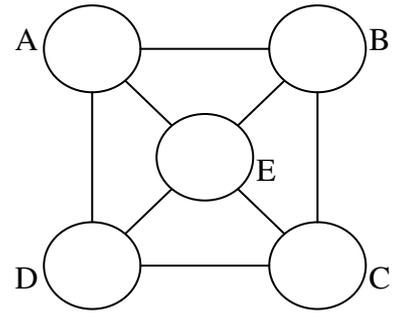

Figure (a)

Answer: ___6____ colouring patterns can be done.

After removing the straight line between circles A and E in Figure (a), we get Figure (b).   How many different colouring patterns can then be resulted?
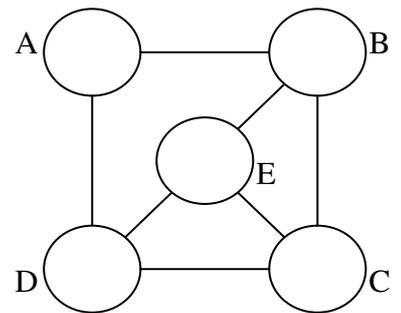

Answer: __12_____ colouring patterns can be resulted.

Figure (b)

After removing the straight lines between circles A and B as well as between circles D and E in Figure (b), we get Figure (c).   How many different colouring patterns can then be obtained?
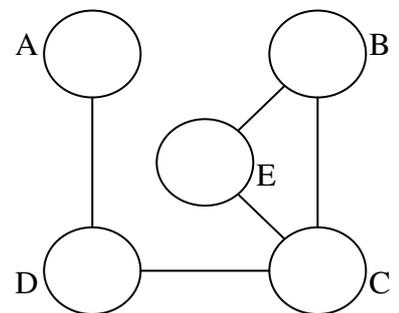

Answer: ___24____ colouring patterns can be obtained.

Figure (c)