Real Quiz 10

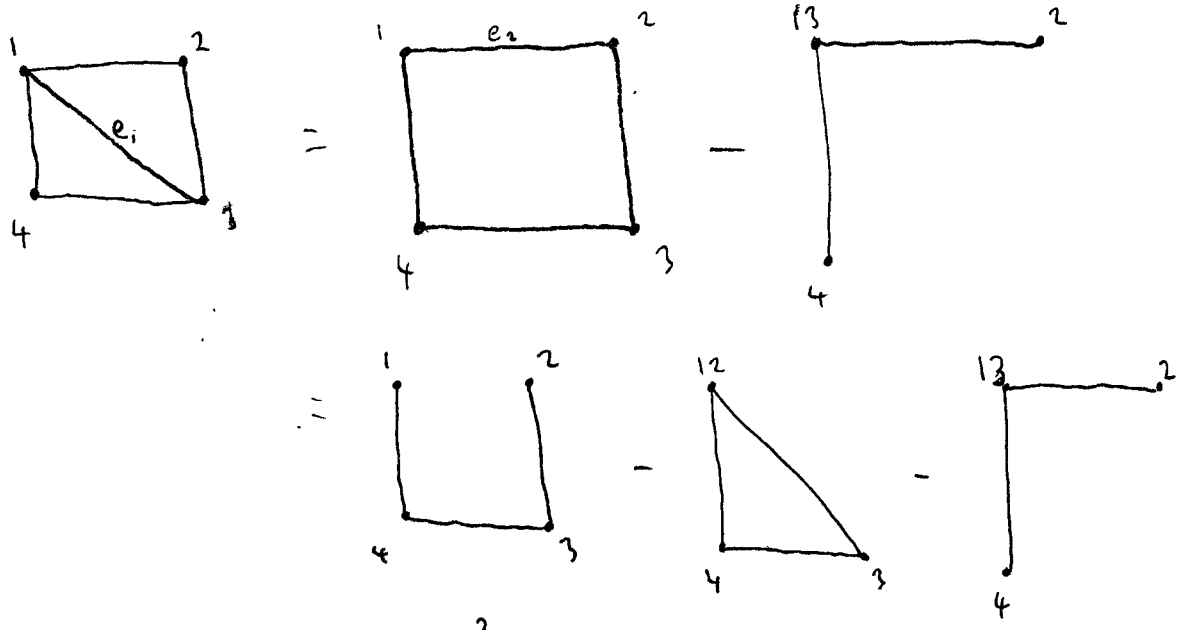
NAME: (print!) Helen Yee

E-MAIL ADDRESS: (print!) hy433@scarletmail.rutgers.edu

1. (8 points) Let G be the graph whose set of vertices is $\{1, 2, 3, 4\}$ and whose set of edges is

$$\{\{1,2\},\{2,3\},\{3,4\},\{1,4\},\{1,3\}\} \quad .$$

In how many ways can you color it with five colors?



$$P_G(k) = k(k-1)^3 - k(k-1)(k-2) - k(k-1)^2$$

$$P_G(5) = 5(4)^3 - 5(4)(3) - 5(4)^2$$

$$= 320 - 60 - 80$$

$$= \boxed{180}$$