1. Quiz, Nov 15,

Question 1.1. *For the following pairs of graphs below, determine if they are isomorphic. If they are isomorphic, give as many isomorphisms as possible between the two. If they are not isomorphic, give a reason why this is not possible.*

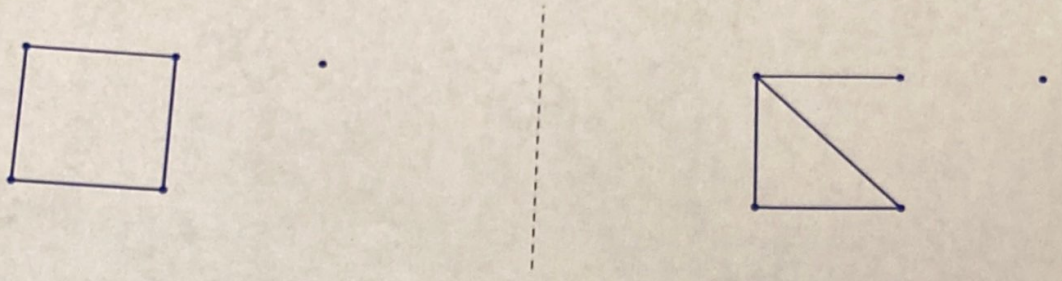


FIGURE 1. graphs for part (a)

No, because one of the points in 2nd picture is of degree 3 while no such points exist in the first picture

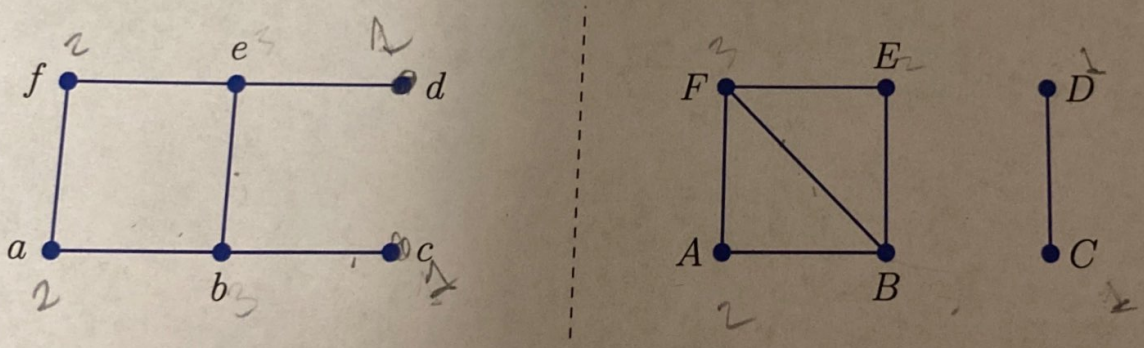
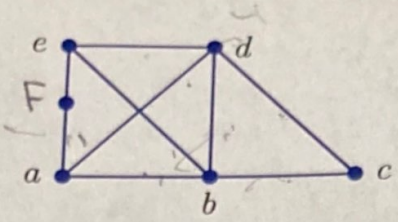


FIGURE 2. graphs for part (b)

Degrees of 1 have to be adjacent for it to be isomorphic, but bard can't adjacent



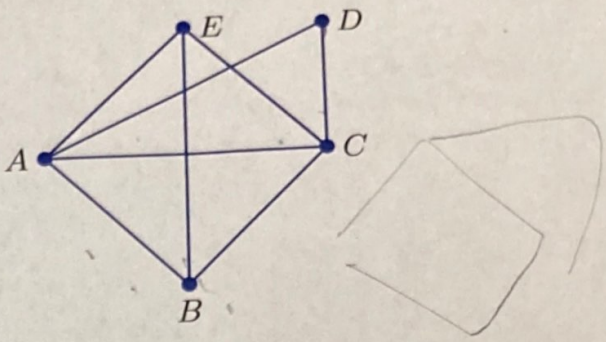


FIGURE 3. graphs for part (c)

without F, it doesn't work as the graphs have different number of vertices

without F

a → B
b → A
c → D
d → C
e → E

{a, b} → {B, A}
{a, d} → {B, C}
{a, e} → {B, E}
{b, d} → {A, C}
{b, c} → {A, D}
{c, d} → {D, C}
{d, e} → {C, E}
{b, e} → {A, E}