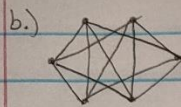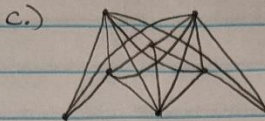# CS345: HW6

Sean Poston

Isomorphic: equal vertices, equal edges

3. Yes, isomorphic

4. Yes, isomorphic

6. a)

c.)

b.)

7. Vertices = m^n

edges = $m^{n-1}n$

8.

15. $\frac{x}{3!}$, where x is the number of graphs where u, w are neighbors

$= 1$ or 100%.

16. a.)   d.)

b.)   e.)

c.)   f.)

17. a.) How many triangles can be found in the letters

b.) Mutual Friends

c.) What researchers have worked with others. i.e. Erdos number

d.) What proteins are interconnected

e.) What computers are interconnected

18. a.) .10 because there aren't that many vertices

b.) .01 because there are a lot of people/friends

c.) .10 : few researchers, and they work together

d.) .01 : lots of proteins

e.) .01 : lots of devices

19. $\{a, b, e, d\}$, $\{$