Answer Key

1.	a.	How	mar	many vertices does each graph have?											
		G_1	6		(G_2	6			G_3	6		G_4	6	
	b. How many edges does each graph have?														
		G_1	5		(G_2	5			G_3	6		G_4	4	
	c.	c. Which graph is NOT a connected graph? G_4													
	d.	. Which of the graphs has at least one cycle? G_3													
	e.	Whi	ch of	the gr	raphs	is a	a tree	e? ($\vec{\sigma}_1$ and	$d G_1$	2.				
2.	a.	deg	at is $r(a)$		gree c	of ea	deg	f the $g(b)$	2	ces	in G_1	$deg(c) \\ deg(f)$			
	b.	List the leaves for G_1 . a, d, e, f													
3.	a.	How many edges are in your new tree? 5													
	b.	How many leaves on your new tree? 3													
	c.	If you removed one edge, would the graph still be connected? no													
4.	a.	Is this a subgraph ? Yes Are all the vertices of G_1 also nodes of G ? Yes Are all the edges of G_1 also edges of G ? Yes													
	b.	Are	all th	subgra ne vert ne edge	ices c	of G	t_2 also								
5.	Mul	tiple s	solut	ions											

6. Multiple solutions depending on which node you start at, but for example...

1.

2.

3.

4.

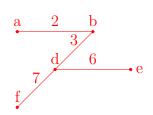


a

b

5.

6.



• e

7.

