

Math 300 HW #10

Section 10.3 #7

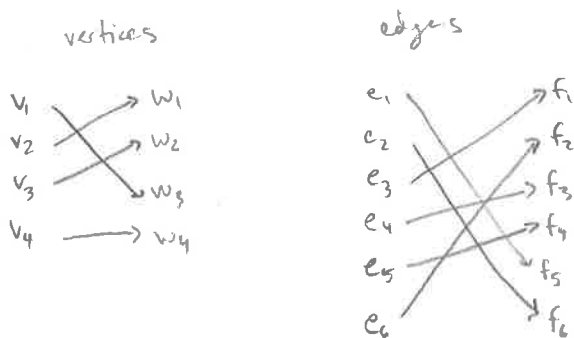
10.4 #3, 13

11.2 #8, #17b

10.3 #7 row i , col i tells how many loop edges at vertex i .

So if these are all zero, the graph has no loop edges.

10.4 #3 These are isomorphic. The isomorphism:



10.4 #13

They are not isomorphic:

G has a cycle of length 5: $abcfea$

G' has no cycle of length 5.

11.2 #8

$$\frac{1}{2}x^4 \leq |x^4 - 50x^3 + 1| \text{ means } x^4 - 50x^3 + 1 \text{ is } \Omega(x^4)$$

11.2 #17b

WTS $|23x^4 + 8x^2 + 4x| \leq 35|x^4|$ for $x > 1$.

Since $x > 1$ we ~~can~~ can ignore abs. val signs, and

$$|23x^4 + 8x^2 + 4x| = 23x^4 + 8x^2 + 4x$$

$$\leq 23x^4 + 8x^4 + 4x^4$$

$$= 35x^4 = 35|x^4|$$

shown