Subject: Midterm

Year: Month: Date:

Problem 1

P= 9

AVB AVB-C

F

Problem 2 (Chtd.)

AB (
$$\neg (\Rightarrow) \neg A \rightarrow \neg E\Rightarrow \neg B \rightarrow F$$

T T T T T

F T T F T T

F F T T T

T T T

F F T T T

F F T T T

F T T T

F T T T

F T T T

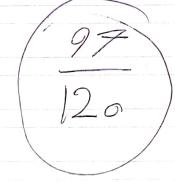
F T T T

F T T T

F T T T

F T T T

F T T T



Subject: Month: Year: Ptoblem 2 Ptoof. by Strong Ind. J. H. P(n)::= Gn &3 B. C. P(0) 153°V J.S. Gn-153 36 n-2 \$ 3.3 5 3 36n-3 53.3 57 6h+1=6h-1+36h-2+36h-3 5 3 5 5 3 263 invoke sto]

Subject: Year: Month: Problem 3 a) Proof, by Ind J. H. PChi: # of Shapes Jeckenses by I on moven. B.C. V J.S. cither well We need n-1 moves to turn in Shapes to I. b) * Circles odd <>> when I circle remains its pairs with a square to make Circle and by ind so on ... <>> winner

Problem 4

(a)
$$4 \times 113 - 41 \times 11 = 1 -> 113 - 41 = 72$$

(b) $11 = 11 \circ 11 = 11 \circ 11 = 11 \circ 11$

8-4

113 [[= 1

z 113 11 = 8

$$11 = 87 = 000 = 00$$
 $11 = 87 = 000 = 00$
 $11 = 87 = 000 = 00$
 $11 = 5.60 = 88$

Subject: Year: Month: Date: Problem 5 -42 (a) \$2 King D CBAFE 5 (b) DBAFECDL (C) A & R B 5 F 6 (d) ho. (has odd degree.) CB AB FF EC

Date: Subject: Year: Problem 6 Prof. by Induction, J.H. PCm1:= M-edge G has C7 m-htk B.(. P(d):== 07,0-1+1/ I. S. P(MH) V-> C > (MH)-H+1c Case 1: We remove edge e. Ja cycle Se romoves -> Cma 7 M-h+K -> add back -> (m+1 3 m+1-n+k) Case 2: Cycles are untouched. -> (m+1 = cm 7, m-h+K _545 Invoke land, M

Problem 7

$$C_{\infty} + \int_{0}^{\infty} f(i) di \leq \sum_{i=1}^{\infty} f(i) \leq \int_{0}^{\infty} f(i) di + \int_{0}^{\infty} f(i) di$$

Problem 8

(a)
$$\lim_{n\to\infty} \frac{n \ln n}{n} = \infty \longrightarrow \times$$

$$(b) \lim_{n\to\infty} \frac{n/_{100}}{n} = \frac{1}{100} \longrightarrow$$

$$(C) \lim_{n\to\infty} \frac{n^{h+1}}{n^n} = \infty \longrightarrow \infty$$

(d)
$$\lim_{n\to\infty} \frac{n^2}{n} = \infty \longrightarrow \times \times \times = \frac{1}{2}$$