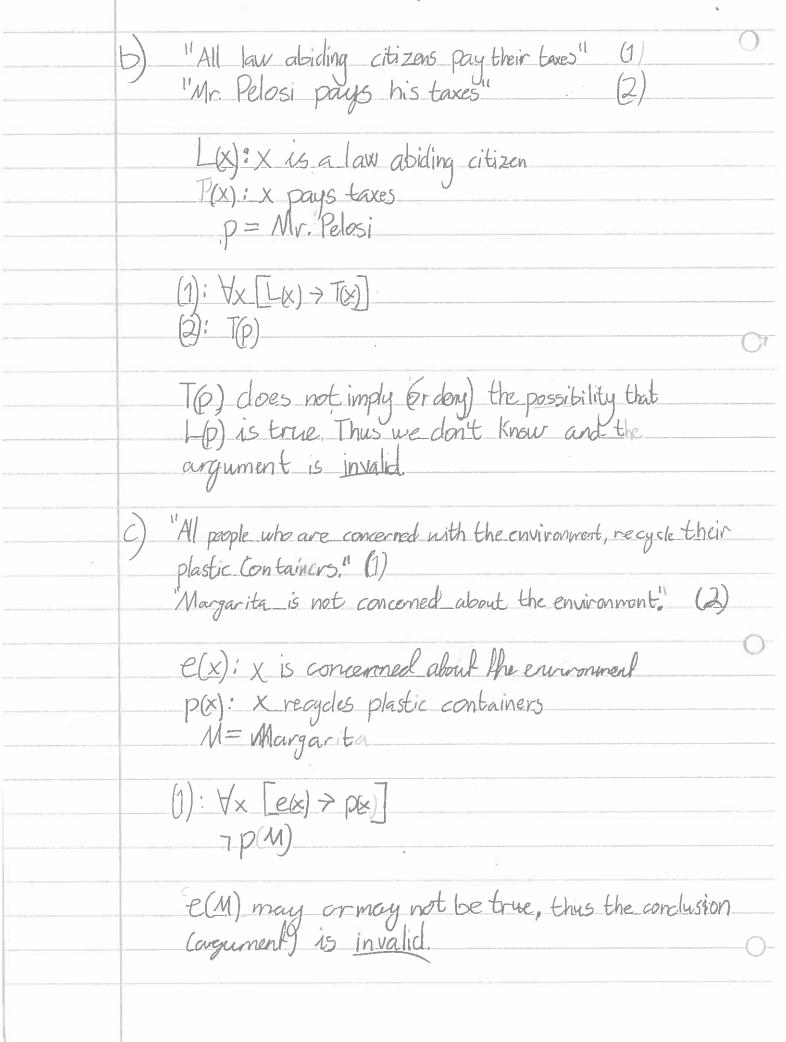
Godhjent Oving 3 Rendell Cak, gruppe 2, mttk a) "All mail carriers carry a can of mace" (1)

"Mrs, Bacon is a mail carrier" (2) (1): $\forall x \left[m(x) \rightarrow c(x) \right]$ (2): m(b)where m(x): "xixs a mail carrier"

C(x): "x carries a can of mace" b: Mrs. Bacon (1) and (2) quets: So Mrs Bacon carrels a gar of mace.



Krasons Universal specification

Disjunctive Amplification

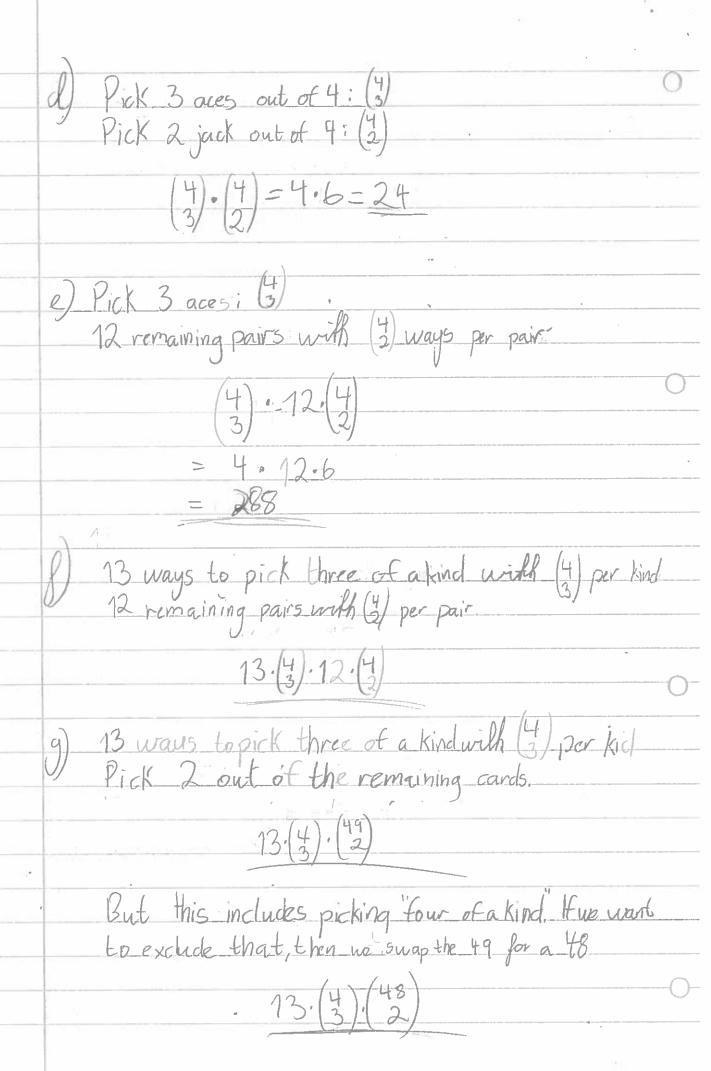
Universal generalization pa) v q(a) · Vx [bx) vq(x)] 2) Steps Keasons $\forall x q(x)$ Universal specification Disjunctive amplificatio p(a) v q(a) ··· Ax bx) A(x) Universal generalization Ax dx) -> Ax [bx),dx] * (Txpx) Vtxqx) > Yx[px)vqx) prof by cases Axpx) V Axqxx => Ax [p(x) vq(x)] U: integers, p(x): "x is even"

q(x): "x is odd"

We have then that $\forall x p(x) \leftarrow F_0$ and tx q(x) (=) to and Yx [p(x) V q(x)] <=> To

Premise Premise Universal specification (1) Universal specification (2)
Conjunctive Simplification (4)
Modus ponens (5) and (3)
Conjunctive simplification (6) Conjunction (7) and (8) Universal generalization

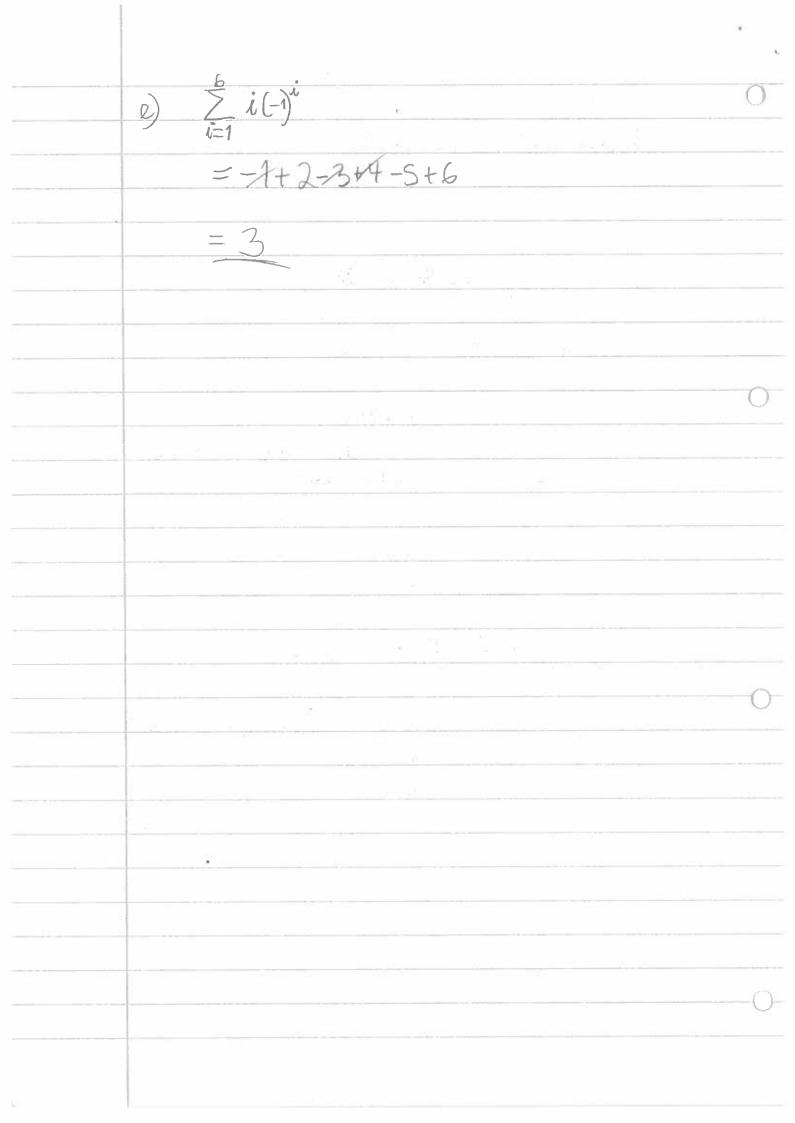
D (AAA) T (G R M a) There are (3) ways for one suit and 4 suits, so the answer is: After picking 4 aces there are 48 cards left in the deck, so the answer is 13 ways to pick four of a kind, 48 cards remaining. 13.48 = 624



h)
$$13 \cdot \binom{1}{2} \cdot \binom{3}{3} - \text{includes three/four of akind}$$

$$13 \cdot \binom{4}{2} \cdot \binom{43}{3} - \text{excludes} - 1$$

$$16) \text{ a)} \qquad \sum_{k=1}^{6} (k^2+1) + (k^$$



8) $x_1 + x_2 + x_3 = 8$ $\begin{cases} x_1, y_1 > 1 \\ y_1 + y_2 + y_3 = 7 \end{cases}$ $(=) x_1 + x_2 + x_3' = 8 - 3 = 5$ $y_1 + y_2 + y_3' = 7 - 3 = 4$ $x_1 + x_2 + x_3' = 8 - 3 = 5$ x_1, y_1, y_2 (3V+2W+ X+4+Z) The coefficients are of the form (n, n2 n3 n4 n5) (3v) 2v) xy2 1 v2WXZ: n1 = 2, n2=4, n3=1, n+=0, ns=1 2 4 101)·(3 V)? (2 W) · x·y°·Z' 8! 32.24 VW XZ $= 8!3.V^2w^4xz$

b) $h_1 + h_2 + h_3 + h_4 + h_5 = 8$, $h_i = 70$ $ \left(8 + 5 - 1\right) = \left(12\right) \text{ ways} $ $ \left(5\right) = \left(12\right) \text{ ways} $)
(5) (5)	
	0
	0
	0

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