

פתרון תרגיל בית מס' 7

עמ' 286-287, תרגיל 1, זוגיים

תרגיל 2

1. $(E \vee F) \cdot (G \vee H)$
2. $(E \rightarrow G) \cdot (F \rightarrow H)$
3. $\sim G / \therefore H$
4. $E \vee F$ 1, Simp
5. $G \vee H$ 2,4, C.D
6. H 5,3, D.S

תרגיל 4

1. $N \rightarrow O$
2. $(N \cdot O) \rightarrow P$
3. $\sim(N \cdot P) / \therefore \sim N$
4. $N \rightarrow (N \cdot O)$ 1, Abs
5. $N \rightarrow P$ 4,2 H.S
6. $N \rightarrow (N \cdot P)$ 5, Abs
7. $\sim N$ 6,3 M.T

תרגיל 6

1. $W \rightarrow X$
2. $(W \rightarrow Y) \rightarrow (Z \vee X)$
3. $(W \cdot X) \rightarrow Y$
4. $\sim Z / \therefore X$
5. $W \rightarrow (W \cdot X)$ 1, Abs

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| 6. | $W \rightarrow Y$ | 5,3, H.S |
| 7. | $Z \vee X$ | 2,6, M.P |
| 8. | X | 7,4, D.S |

תרגיל 8

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|----|---|----------|
| 1. | $F \rightarrow \sim G$ | |
| 2. | $\sim F \rightarrow (H \rightarrow \sim G)$ | |
| 3. | $(\sim I \vee \sim H) \rightarrow \sim G$ | |
| 4. | $\sim I / \therefore \sim H$ | |
| 5. | $\sim I \vee \sim H$ | 4, Add |
| 6. | $\sim G$ | 3,5, M.P |
| 7. | $\sim F$ | 1,6, M.T |
| 8. | $H \rightarrow \sim G$ | 2,7, M.P |
| 9. | $\sim H$ | 8,6, M.T |

תרגיל 10

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| 1. | $(L \rightarrow M) \rightarrow (N \equiv O)$ | |
| 2. | $(P \rightarrow \sim Q) \rightarrow (M \equiv \sim Q)$ | |
| 3. | $\{[(P \rightarrow \sim Q) \vee (R \equiv S)] \cdot (N \vee O)\} \rightarrow [(R \equiv S) \rightarrow (L \rightarrow M)]$ | |
| 4. | $(P \rightarrow \sim Q) \vee (R \equiv S)$ | |
| 5. | $N \vee O / \therefore (M \equiv \sim Q) \vee (N \equiv O)$ | |
| 6. | $[(P \rightarrow \sim Q) \vee (R \equiv S)] \cdot (N \vee O)$ | 4,5, Conj |
| 7. | $(R \equiv S) \rightarrow (L \rightarrow M)$ | 3,6, M.P |
| 8. | $(R \equiv S) \rightarrow (N \equiv O)$ | 7,1, H.S |
| 9. | $[(P \rightarrow \sim Q) \rightarrow (M \equiv \sim Q)] \cdot [(R \equiv S) \rightarrow (N \equiv O)]$ | 2,8, Conj |
| 10. | $(M \equiv \sim Q) \vee (N \equiv O)$ | 9,4, C.D |

תרגיל 2

1. $(A \rightarrow I) \cdot (B \rightarrow M)$
2. $A \vee B$
3. $I \rightarrow B$
4. $M \rightarrow W \ / \therefore (B \vee W)$
5. $I \vee M$ 1,2, C.D
6. $(I \rightarrow B) \cdot (M \rightarrow W)$ 3,4, Conj
7. $B \vee W$ 6,5, C.D

תרגיל 4

1. $N \rightarrow M$
2. $P \rightarrow Q$
3. $R \rightarrow H$
4. $H \rightarrow T$
5. $N \vee R \ / \therefore M \vee H$
6. $(N \rightarrow M) \cdot (R \rightarrow H)$ 1,3, Conj.
7. $M \vee H$ 6,5, C.D.

תרגיל 6

1. $J \rightarrow D$
2. $\sim J \rightarrow E$
3. $D \rightarrow H$
4. $[(J \rightarrow D) \cdot (D \rightarrow H)] \rightarrow [(J \cdot H) \vee (\sim J \cdot \sim H)]$
5. $(J \cdot H) \rightarrow T$
6. $(\sim J \cdot \sim H) \rightarrow M \ / \therefore T \vee M$

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| 7. $(J \rightarrow D) \cdot (D \rightarrow H)$ | 1,3, Conj. |
| 8. $(J \cdot H) \vee (\sim J \cdot \sim H)$ | 4,7, M.P. |
| 9. $((J \cdot H) \rightarrow T) \cdot ((\sim J \cdot \sim H) \rightarrow M)$ | 5,6, Conj. |
| 10. $T \vee M$ | 9,8, C.D. |

תרגיל 8

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|---|------------|
| 1. $J \rightarrow E$ | |
| 2. $E \rightarrow T$ | |
| 3. $\sim T$ | |
| 4. $R \rightarrow H$ | |
| 5. $D \rightarrow \sim H$ | |
| 6. D | |
| 7. $\sim J \rightarrow (R \vee S) / \therefore S$ | |
| 8. $J \rightarrow T$ | 1,2, H.S. |
| 9. $\sim J$ | 8,3, M.T. |
| 10. $R \vee S$ | 7,9 M.P. |
| 11. $\sim H$ | 5,6, M.P. |
| 12. $\sim R$ | 4,11,M.T. |
| 13. S | 10,12,D.S. |

תרגיל 10

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|---|----------|
| 1. $O \rightarrow \sim M$ | |
| 2. O | |
| 3. $B \rightarrow \sim N$ | |
| 4. B | |
| 5. $(\sim M \cdot \sim N) \rightarrow F$ | |
| 6. $(B \cdot F) \rightarrow G / \therefore G$ | |
| 7. $\sim M$ | 1,2, M.P |

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| 8. $\sim N$ | 3,4, M.P |
| 9. $\sim M \cdot \sim N$ | 7,8, Conj |
| 10. F | 5,9, M.P |
| 11. $B \cdot F$ | 4,10, Conj |
| 12. G | 6,11, M.P |