לוגיקה – תרגיל 13

הוכיחו את הטיעונים הבאים:

א.

$$1.(x)(Kx \rightarrow \sim Lx)$$
$$2.(\exists x)(Mx \cdot Lx) \qquad /\therefore (\exists x)(Mx \cdot \sim Kx)$$

ב.

$$1.(x)[(Rx \cdot Ax) \rightarrow Tx]$$
$$2.Ab$$
$$3.(x)(Rx) \qquad /\therefore Tb$$

ג.

$$1.(x)[(Fx \vee Hx) \rightarrow (Gx \cdot Ax)]$$
$$2.\sim(x)(Ax \cdot Gx) \qquad /\therefore (\exists x) \sim Hx$$

ד. $1.\sim(\exists x)Fx \quad /\therefore Fa \rightarrow Ga$

ה.

$$1.(x)[(Ax \cdot Bx) \rightarrow Cx]$$
$$2.Aa \cdot Ba$$
$$3.\sim Cb \qquad /\therefore \sim(Ab \cdot Bb)$$

ו.

$$1.(x)(Gx \rightarrow Hx)$$
$$2.(\exists x)(Ix \cdot \sim Hx)$$
$$3.(x)(\sim Fx \vee Gx) \qquad /\therefore (\exists x)(Ix \cdot \sim Fx)$$

ז.

$$1.(x)\left[(Bx \cdot Ax) \rightarrow Dx\right]$$
$$2.(\exists x)(Qx \cdot Ax)$$
$$3.(x)(\sim Bx \rightarrow \sim Qx) \quad / \therefore (\exists x)(Dx \cdot Qx)$$

ח.

$$1.(x)\left[Px \rightarrow (Ax \vee Bx)\right]$$
$$2.(x)\left[(Bx \vee Cx) \rightarrow Qx\right] \quad / \therefore (x)\left[(Px \cdot \sim Ax) \rightarrow Qx\right]$$

<u>תרגיל אתגר</u>

$$1.(x)\left[Px \rightarrow (Qx \vee Rx)\right]$$
$$2.(x)\left[(Sx \cdot Px) \rightarrow \sim Qx\right] \quad / \therefore (x)(Sx \rightarrow Px) \rightarrow (x)(Sx \rightarrow Rx)$$

בהצלחה!