

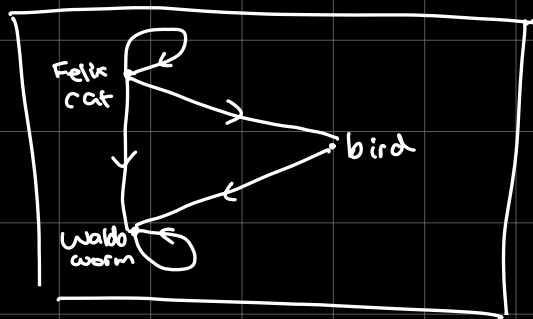
4b. Everything on the table is red and everything green is in the box

5a.ii. $\exists x, y, z (\text{child}(y, z, x))$

5a.iv. $\forall x, y (\text{sibling}(x, y) \rightarrow [\exists z [\text{father}(x, z) \vee \text{father}(y, z)] \vee \exists m [\text{mother}(m, x) \vee \text{mother}(m, y)]])$

5c. $\forall x, y [x = \text{father-of}(y) \iff [\text{male}(x) \wedge \exists z [\text{child}(y, z, x)]]]$

6f.



There exists a u that is chased by everything.

Yes, the worm

6h. There exists an animal that chases everything. the cat.

$$\neg i. \exists \forall x, y \left[\left(\text{triangle}(x) \wedge \text{triangle}(y) \right) \rightarrow \left(\text{above}(x, y) \vee \text{above}(y, x) \right) \right]$$

$$\neg i. H. \exists x \left(\neg \text{circle}(x) \wedge \forall y \left(\text{left}(x, y) \vee \text{left}(y, x) \right) \rightarrow \neg \text{circle}(y) \right)$$

$$\neg i. \text{True} \rightarrow E$$

$$\text{False} \rightarrow H$$