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1) $\forall x [\exists z Animal(z) \Rightarrow Kills(x,z)] \Rightarrow [\forall y \neg loves(y,x)]$

Step1: Eliminate $\Rightarrow$

$\forall x [\neg \exists z \neg Animal(z) \vee Kills(x,z)] \vee [\forall y \neg loves(y,x)]$

Step2: $\neg$ inward

$\forall x [\forall z Animal(z) \wedge \neg Kills(x,z)] \vee [\forall y \neg loves(y,x)]$

Step3: change quantifier

$\forall x [\forall z Animal(z) \wedge \neg Kills(x,z)] \forall [\forall z \neg loves(z,x)]$

Step4: Skolemize

$\forall x [Animal(f(x)) \wedge \neg Kills(x, f(x))] \vee \neg loves(G(x), x)$

Step5: Drop universal Quantifier

$[Animal(f(x)) \wedge \neg Kills(x, f(x))] \vee \neg loves(G(x), x)$

Step6: Distribute

$[Animal(f(x)) \vee \neg loves(G(x), x)] \wedge [Animal(fx)] \vee \neg loves(G(x), x)]$

2) Rules

- cold & perception $\rightarrow$ snow
  $\neg$ cold $\vee \neg$ perception $\vee$ snow
- January $\rightarrow$ cold
  $\neg$ January $\vee$ cold
- clouds $\rightarrow$ perception
  $\neg$ clouds $\vee$ perception

facts

- January, clouds

Prove

- snow

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