

Sample Solution

NFF

3. $\sim(x) [\sim(Sx \cdot \sim Tx)]$
→ $(\exists x) \sim[\sim(Sx \cdot \sim Tx)]$... Q.N./Q.E.
→ $(\exists x) \sim(\sim Sx \vee \sim\sim Tx)$... DeM.
→ $(\exists x) \sim(\sim Sx \vee Tx)$... D.N.
→ $(\exists x) (\sim\sim Sx \cdot \sim Tx)$... DeM.
→ $(\exists x) (Sx \cdot \sim Tx)$... D.N.

5. $\sim(\exists x) [\sim(Wx \vee Kx)]$
→ $(x) \sim[\sim(Wx \vee Kx)]$... Q.N./Q.E.
→ $(x) \sim(\sim Wx \cdot \sim Kx)$... DeM.
→ $(x) (\sim\sim Wx \vee \sim\sim Kx)$... DeM.
→ $(x) (\sim Wx \supset \sim\sim Kx)$... Impl.
→ $(x) (\sim Wx \supset Kx)$... D.N.

Sample Solution

Quantificational symbolization of sentence -

2. A girl will win if and only if she is lucky.

$$(\forall x) [Gx \supset (Wx \equiv Lx)]$$

Gx : x is a girl.

Wx : x can win

Lx : x is lucky

6. Apples and oranges are tasty and good for health.

$$(\forall x) [(Ax \vee Ox) \supset (Tx \cdot Gx)]$$

Ax : x is an apple.

Ox : x is an orange.

Tx : x is tasty.

Gx : x is good for health.

37. Diplomates are not always rich.

L.F $\rightarrow$ Some diplomates are not rich. (O)

$$(\exists x) (Dx \cdot \sim Rx)$$

Dx : x is a diplomate.

Rx : x is rich.

39. Nurses are always considerate.

$$(\forall x) (Nx \supset Cx)$$

Nx : x is a nurse

Cx : x is considerate.

46. All that glitters is not gold.

L.F $\rightarrow$ Something that glitters is not gold. (O)

$$(\exists x) (Tx \cdot \sim Gx)$$

Tx : x glitters

Gx : x is gold.