



Practice Questions

1. Which of the following are wffs in predicate logic? If it is, draw its syntactic structure.

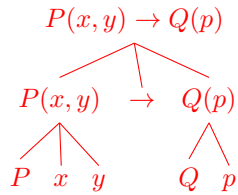
- a. $P(x, y) \rightarrow Q(p)$
- b. $\exists x[(R(x, x, x))]$
- c. $\exists y[\forall x[P(q, y)]]$
- d. $\forall x[\exists y[P(q, y) \wedge \forall(P(x, q))]]$
- e. $P(y) \wedge \exists x[Q(x)]$



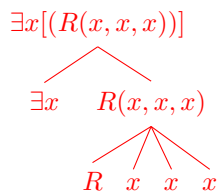
Solutions

1. Which of the following are wffs in predicate logic? If it is, draw its syntactic structure.

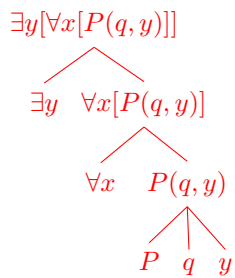
a. $P(x, y) \rightarrow Q(p)$ - Yes



b. $\exists x[(R(x, x, x))]$ - Yes



c. $\exists y[\forall x[P(q, y)]]$ - Yes



d. $\forall x[\exists y[P(q, y) \wedge \vee(P(x, q))]]$ - No

e. $P(y) \wedge \exists x[Q(x)]$ - Yes

