

Homework 4 Key

1. $Ox \equiv x$ is a person born in Ontario, $Ux \equiv x$ is a US citizen

$$(\exists x)(Ox \& Ux)$$

2. $Ax \equiv x$ is a person born in Alaska, $Ux \equiv x$ is a US citizen

$$(x)(Ax \rightarrow Ux)$$

3. $Ox \equiv x$ is a person born in Ontario, $Ex \equiv x$ is eligible to become the US President

$$(x)(Ox \rightarrow \neg Ex) \text{ or } \neg (\exists x)(Ox \& Ex)$$

4. $Px \equiv x$ is a Princeton student, $Ux \equiv x$ is a US citizen

$$(\exists x)(Px \& \neg Ux)$$

5. $r \equiv \text{Rob}$, $Tx \equiv x$ is a tall person, $Cx \equiv x$ is a Canadian

$$Tr \& Cr$$

6. $Lx \equiv x$ may attend this lecture, $Px \equiv x$ is a Princeton student

$$(x)(Lx \rightarrow Px)$$

7. $Rx \equiv x$ is round, $Sx \equiv x$ is square

$$(\exists x)Rx \& (\exists x)Sx \& \neg (\exists x)(Rx \& Sx)$$

8. $Dx \equiv x$ is a dog, $Cx \equiv x$ is a cat, $Gx \equiv x$ is a good housepet

$$(x)((Dx \vee Cx) \rightarrow Gx)$$