Problem Set 10

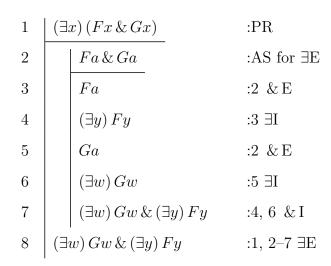
Partial Solutions: We Assume you will never share these!

Apologies for typos! Let me know if you catch any! (Gotta catch-em all!)

PS10.1

1	$Gb \supset Fb$:PR
2	Gb	:PR
3	$oxed{Fb}$:1, 2 ⊃E
4	$Fb \lor Hb$:3 VI
5	$(\exists x) (Fx \vee Hx)$:4 ∃I

PS10.2



PS10.4

Check that we have met the restrictions on Universal Introduction $\forall I!$

PS10.5

1
$$(\forall x) Fx$$
:PR

2
 $(\exists x) Bzz$
:PR

3
Baa
:AS for $\exists E$

4
Fa
:1 $\forall E$

5
Baa & Fa
:3, 4 & I

6
 $(\exists y) (Byy \& Fy)$
:5 $\exists I$

7
 $(\exists y) (Byy \& Fy)$
:2, 3-6 $\exists E$

Notice that we must apply Existential Introduction WITHIN the subproof, so that the final line of the subproof has no free occurances of our instantiating constant 'a'. We thereby obey the three restrictions on Existential Elimination.

 $\mathrm{PS}10.7$