

# Math 2283 - Introduction to Logic

Quiz #3 - 2006.08.30

Solutions

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Find a logical form which is equivalent to the following form:

$$\forall x (Vx \wedge \neg Wx)$$

One example is

$$\exists x (\neg Vx \vee Wx)$$

Given the following pairs of logical forms, which implies the other?

1.  $\exists x Gx$  and  $Gy$

If  $Gy$  is true, then  $\exists x Gx$  must be true. However, if  $\exists x Gx$  is true, this does not mean that  $Gy$  must be true. Therefore,  $Gy$  implies  $\exists x Gx$ .

2.  $\forall x Gx$  and  $Gy$

Using a similar argument here, one has that  $\forall x Gx$  implies  $Gy$ .