

# Assignment Week 13

Philosophy 305

Due April 8, 2022, 5pm

## Questions 1-4

Which of the following are theorems of KT?

1.  $\Box A \rightarrow (A \wedge \Diamond A)$
2.  $\Box(A \rightarrow B) \rightarrow (A \rightarrow B)$
3.  $A \rightarrow \Box \Diamond A$
4.  $A \rightarrow \Diamond \Box A$

## Questions 5-7

Which of the following are theorems of S4?

5.  $\Box \Diamond A \rightarrow \Box \Box \Diamond A$
6.  $\Box \Diamond A \rightarrow \Box \Diamond \Diamond A$
7.  $\Diamond \Box A \rightarrow \Box \Diamond A$

## Questions 8-10

Which of the following are theorems of S5?

8.  $\Diamond A \rightarrow \Box \Box \Diamond A$
9.  $\Box A \vee \neg A$
10.  $\neg \Diamond((A \wedge \neg \Box A) \wedge \Diamond \Box(A \wedge \neg \Box A))$