

Instructions: Write name legibly. Explain so that smart people who have not taken our class will understand.

Complete the following arguments based on the corresponding prose.

(a) *If we can clearly demarcate pure science from applied science, then there would be no theoretical breakthroughs from applied science or insight about how to apply theory from purely theoretical science. But we do find theoretical breakthroughs from applied sciences and insight about how to apply theory from purely theoretical science. So, clearly we cannot demarcate pure science from applied science. (p. 62)*

If _____,

then _____

But _____

Therefore, it is not the case that _____.

(b) *If can clearly demarcate pure science from applied science, then we could test scientific theory without experiments. But testing scientific theory requires experiments, which requires “some application in the real empirical world.” So, clearly we cannot demarcate pure science from applied science. (p. 62)*

If _____,

then _____

But _____

Therefore, it is not the case that _____.

For each of the following, indicate whether the claim is true or false by circling/underlining/etc. one option.

True False *Heather Douglas thinks that scientific progress is only about discerning the truth.*

True False *Heather Douglas thinks that scientific progress is only about falsifying theories.*

True False *Heather Douglas thinks that scientific progress is about improving our ability to predict, control, manipulate, and intervene on the world.*

True False *Heather Douglas thinks that Kuhn was thinking of “science as pure science” (p. 61).*

True False *Heather Douglas thinks that a “pure vs. applied [science] distinction” is plausible (p. 62).*

Give an example of scientific progress that Douglas would accept (as scientific progress)—real or imagined.

Complete the following arguments based on the corresponding prose.

(c) *If scientific progress is not a “socially, ethically mediated concept”, then “any increase in the capacity to intervene, control, or predict the empirical world would count as progress” can count as scientific progress. But some increases in the capacity to intervene, control, or predict the empirical world “could end civilization completely”. And surely such destructive increases in the capacity to intervene, control, or predict the empirical world cannot count as progress! So, (p. 63)*

If _____.

then _____.

But _____.

And _____.

So, it is not the case that any increase in the capacity to intervene, control, or predict the empirical world would count as progress.

Therefore, _____.

Heather Douglas says that defining scientific progress “in terms of the increased capacity to predict, control, manipulate, and intervene in various contexts” (p. 62) gives us a notion of scientific success that “translates well across paradigms” and “matters to both scientists and the public” (p. 62). Explain these two features. Do they support or undermine that definition of scientific progress (according to Douglas).