

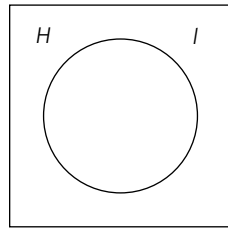
CHAPTER 10

Solutions to the Even-Numbered Questions in the Text

10.1

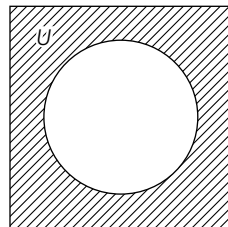
2.

H = happy things
 I = Luisa



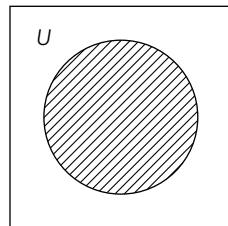
4.

U = ugly things



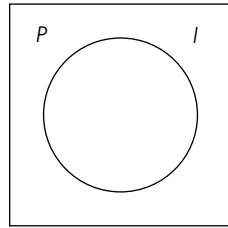
6.

U = ugly things



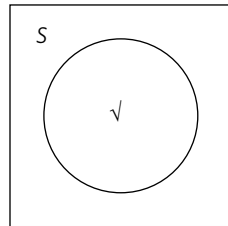
8.

P = pretty things
 I = Lola



10.

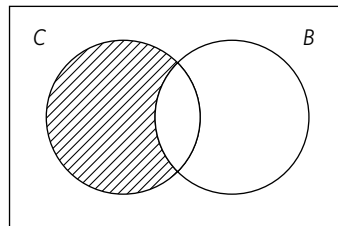
S = things that
stay put



10.2A

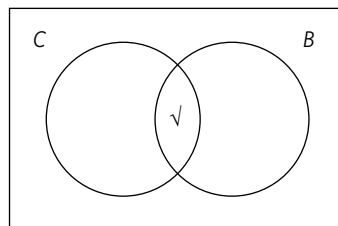
2.

ACB



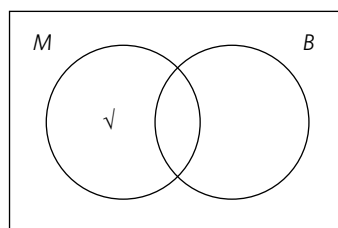
4.

ICB



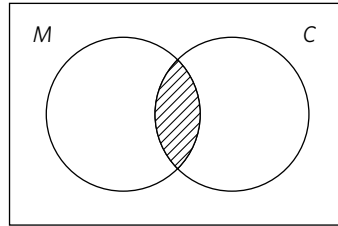
6.

OMB



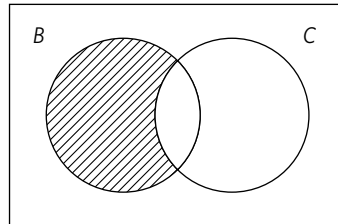
8.

EMC



10.

ABC



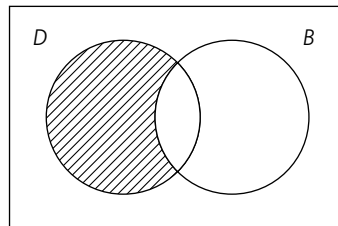
10.2B

2. All dogs are barking things.

ADB

D = dogs

B = barking things

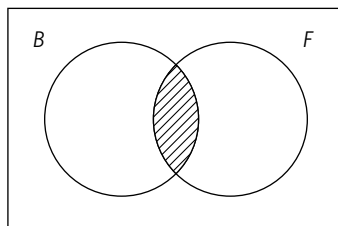


4. No birds are things that fly backwards.

EBF

B = birds

F = things that
fly backwards

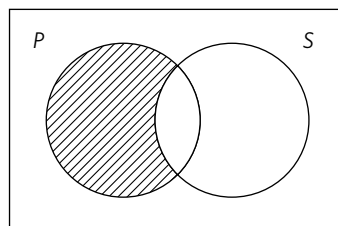


6. All people are strange things.

APS

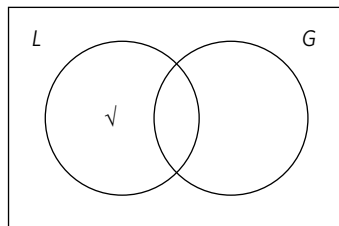
P = people

S = strange things



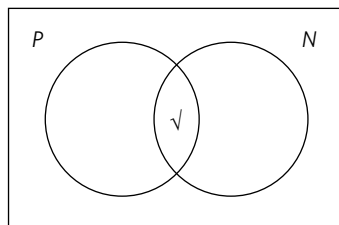
8. Some glittering things are not gold things.

OLG
L = glittering things
G = gold things



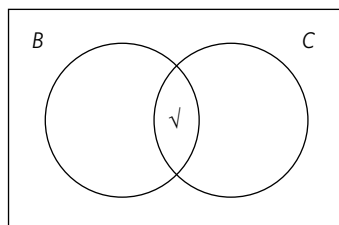
10. Some police are nearby things.

IPN
P = police
N = nearby things



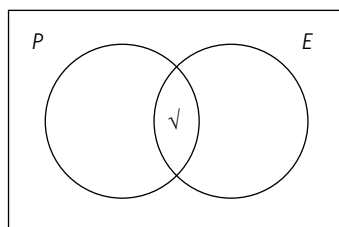
12. Some burglars are clever things.

IBC
B = burglars
C = clever things



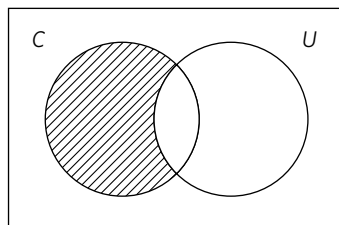
14. Some politicians are election lovers.

IFE
P = politicians
E = election-lovers



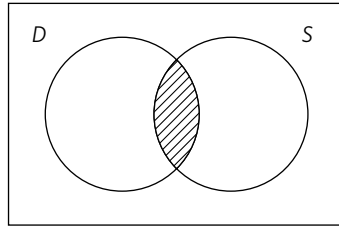
16. All cats are unique things.

ACU
C = cats
U = unique things



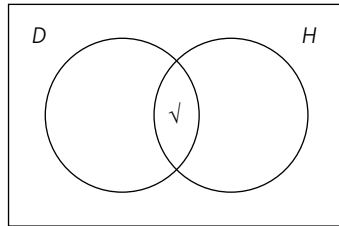
18. No dogs are selective things.

EDS
D = dogs
S = selective things



20. Some dogs are happy things.

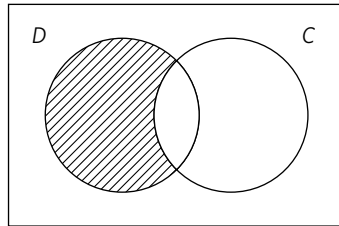
IDH
D = dogs
H = happy things



10.3

2.

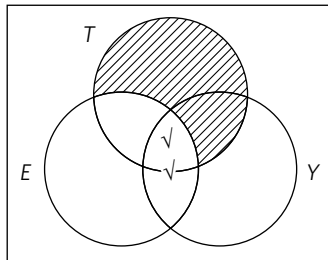
a = Alicia
D = dancers
C = coffee-likers



Shading **ADC** precludes putting an “*a*” in the region of *D* outside of *C* (to represent “Alicia is a dancer” and “Alicia doesn’t like coffee”), so the set is inconsistent.

4.

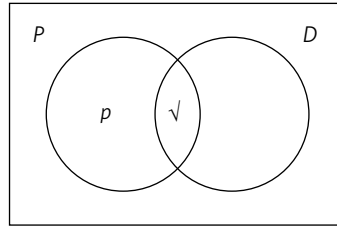
T = trucks
E = expensive things
Y = yellow things



Since we can represent **ATE**, **ITY**, and **IEY** on the same diagram they are consistent.

6.

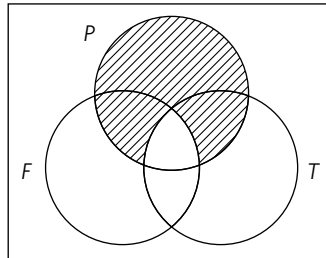
P = pigs
 p = porky
 D = things that
can dance



Since we can represent all three statements on the same diagram, they are consistent.

8.

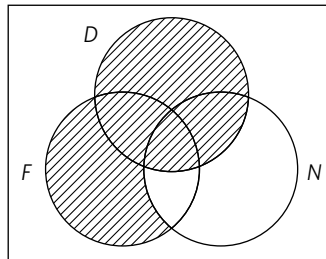
P = pigs
 F = friendly things
 T = talented things
 p = Porky



Shading APF and APT precludes putting a “ p ” in P and F , but not in T . So the set is inconsistent.

10.

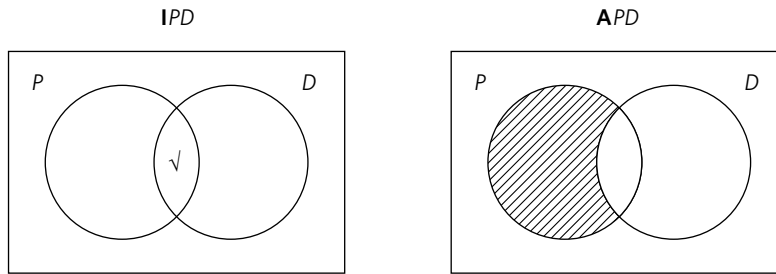
D = dogs
 F = things that
have fur
 N = nice things



ADF , AFN , and EDN can all be represented on this diagram, so they are consistent.

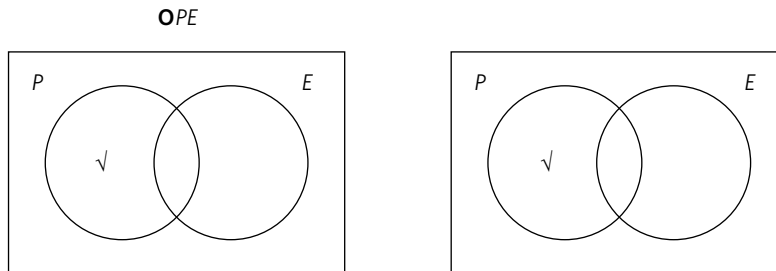
10.4A

2.



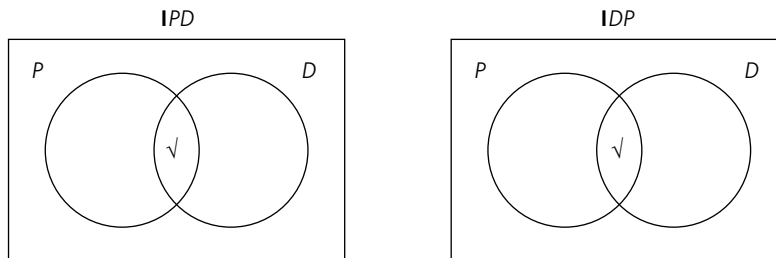
Diagramming IPD does not diagram APD as well; so IPD does not entail APD.

4.



OPE is at the left. The second statement says that it's false that all pigs are evil—that is, that there are some that are not. This is the same diagram as the left one. The left one does entail the right.

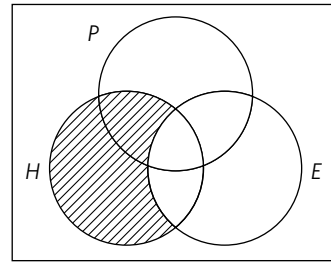
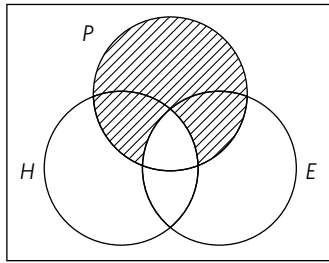
6.



The two diagrams are the same. Each entails the other.

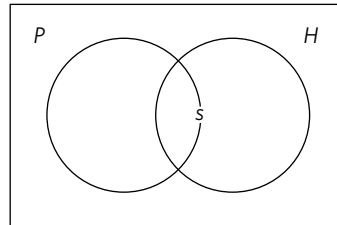
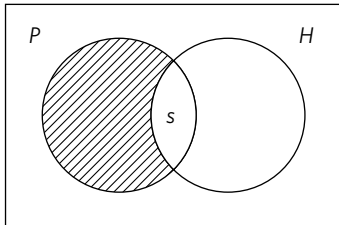
10.4B

2.



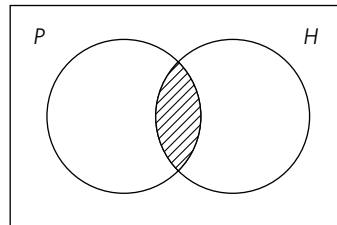
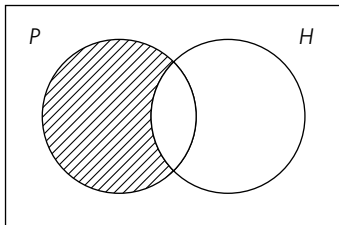
The premise set (left) does not represent the conclusion (right); so the argument is invalid.

4.



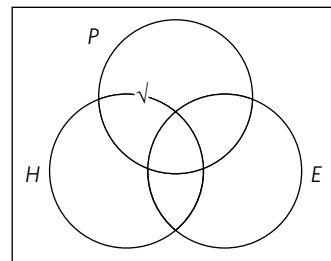
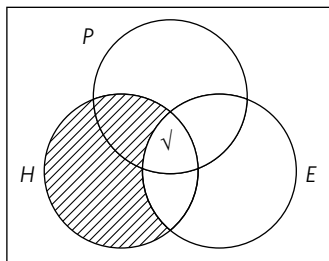
The diagram of the conclusion (right) shows the “s” somewhere in the “H” circle. That fact is already in the diagram of the premises (left); so the argument is valid.

6.



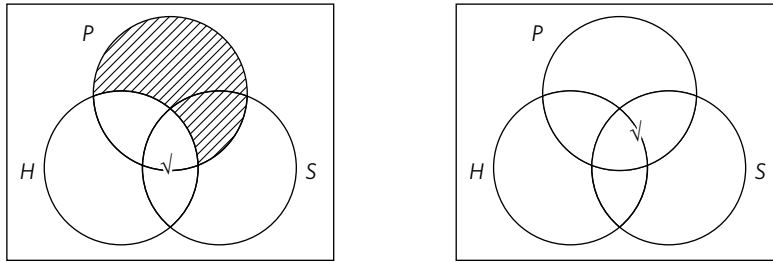
The conclusion’s diagram (right) is not included in the premise’s diagram (left); so the argument is invalid.

8.



The conclusion’s diagram (right) is not included in the premise’s diagram (left); so the argument is invalid.

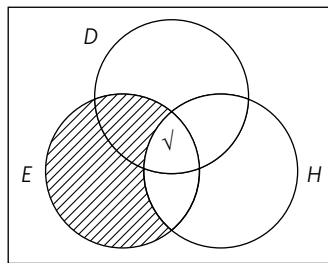
10.



The diagram of the conclusion (right) is not included in the diagram of the premises (left); so the argument is invalid.

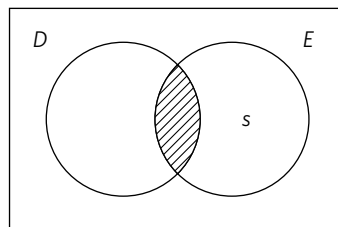
10.4C

2. Diagramming the premises:



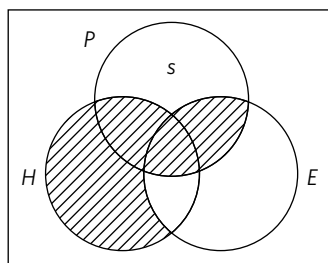
Shows that what follows is that some dogs are happy.

4. Diagramming the premises:



Shows that what follows is that Seymour is not a dog.

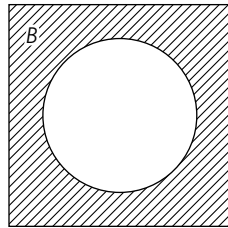
6. Diagramming the premises:



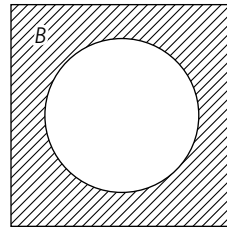
Shows that what follows is that Sally is not an elephant, and not happy.

10.5A

2. Everything is beautiful.

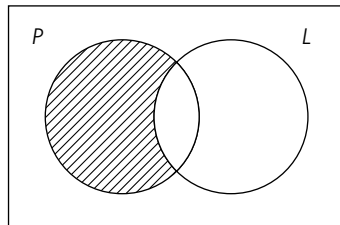


Nothing is not beautiful.

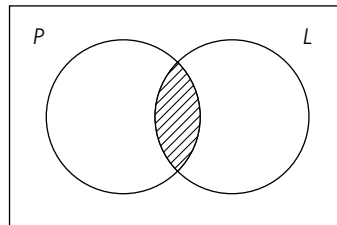


The two have the same diagram. They are logical equivalents.

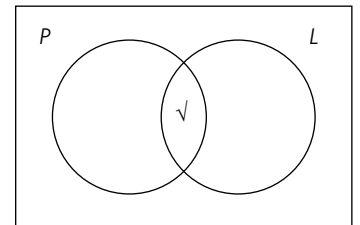
4. All pigs are lovers of cheese.



No pigs are lovers of cheese.

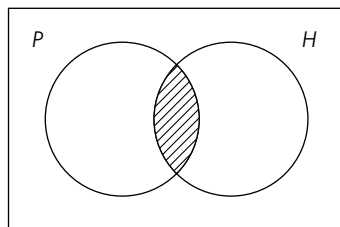


Some pigs are lovers of cheese.

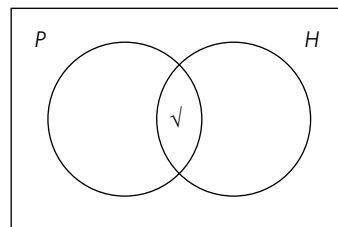


The two have different diagrams, so they are not logically equivalent. The denial of the second, shown in the third diagram, is not the same as the first, so they are not contradictories.

6. No pigs are happy.



Some unhappy things are pigs.



They are contradictories. They have opposite truth values.

10.5B

The diagrams are elementary, and may help to visualize the answers, which are:

2. Necessarily true.
4. Self-contradictory.
6. Contingent.