

ATTENTION: All responses (where applicable) should show clear evidence of the work through which you reached the answer. You may use the space on last page as scrap. Do not forget to write your name on the exam!

A. Translate into syllogistic logic and say whether valid or invalid, providing implicit premises when needed.

5 x 6 points each = 30 points

1. We know that not even one cat in the world is ugly, but that some dogs are. Now, of course, all dogs bark, and no one who barks is polite. It follows that cats are polite.

4. A person isn't altruistic unless he or she is a believer. While it's true that no believer is critical, it's false that no dull people are critical. So, not all evangelists are altruistic.

2. Today is Monday, so we are having pizza.

5. Only people who love unconditionally are parents. Some who love do not love unconditionally. And since all who love also care, it must follow that not all who care are parents.

3. Not all lies are reprehensible, because some lies don't harm others, and the only reprehensible actions are those that harm others.

B. Translate into syllogistic well-formed

8 x 2 points each = 16 points

1. A picture is worth a thousand words.

5. An alien is not scary unless it's a Klingon.

2. It isn't true that everything that lays eggs is a bird.

6. Any dancer is an artist.

3. Only fools rush in.

7. Not all students who get good grades study every day.

4. Everybody likes Omar.

8. Ming loves the most beautiful woman.

C. Test using Venn diagrams and say whether valid or invalid.

4 x 3 points each = 12 points

1. Some L is not S
No L is D
∴ Some S is not D

3. All G is D
Some P is not D
∴ Some P is not G

2. No R is P
All G is R
∴ No P is G

4. No X is Y
Some Z is not X
∴ Some Y is Z

D. Write a conclusion in English (not just in wffs) which follows validly from and uses all premises. Write "nil" if no such conclusion follows.

4 x 6 points each = 24 points

1. None but butter whets my whistle.
Some butter is rancid.

∴

3. All zebras are absurd.
Only funny things are absurd.
Nothing is funny unless it has polka dots.

∴

2. My mother is a postal agent.
Postal agents walk a lot.
No one walks a lot without being really fit.

∴

4. This glass slipper fits Cinderella.
Any shoe that fits Cinderella is small.
No small shoe is easy to put on.

∴

E. Choose one answer

3 x 2 points each = 6 points

1. Given that the propositions “Dolphins can’t fly” and “Some of the things that can fly are birds” are true, which of the following must be true?
 - a. All dolphins are birds.
 - b. All birds are dolphins.
 - c. Some birds aren’t dolphins.
 - d. Some dolphins aren’t birds.
 - e. None of the above.

2. Which of the following are pairs of contradictories?
 - a. No hippogriff is cute. / All hippogriffs are cute.
 - b. All hippogriffs are cute. / Some hippogriffs aren’t cute.
 - c. Some cute things aren’t hippogriffs. / All hippogriffs are cute.
 - d. Some hippogriffs are cute. / Some hippogriffs aren’t cute.
 - e. All cute things are hippogriffs. / Some hippogriffs aren’t cute.

3. Given that the proposition “Only plumbers can handle lead” is TRUE, which of the following must be FALSE?
 - a. No one who can handle lead is a plumber.
 - b. Some plumbers can’t handle lead.
 - c. All plumbers can handle lead.
 - d. All who can handle lead are plumbers.
 - e. Not everyone who can handle lead is a plumber.

F. True or false?

12 X 1 point each = 12 points

1. ___ Every argument is deductive.
2. ___ Some valid arguments can have a false conclusion.
3. ___ If an argument has true premises, it must have a true conclusion.
4. ___ If an argument is unsound, it must be invalid.
5. ___ All valid arguments with true premises must have a true conclusion.
6. ___ All valid arguments with a true conclusion must have all true premises.
7. ___ If an invalid argument has all true premises, its conclusion must be false.
8. ___ Some inductive arguments can be valid.
9. ___ All premises are propositions.
10. ___ All propositions are premises.
11. ___ Logic is the study of knowledge.
12. ___ A proposition must be either true or false.

Scrap paper, if needed.