

# Introduction to Logic

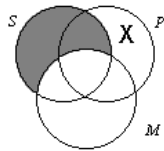
## Logic Answers: Venn Diagrams and Fallacies

Licensed under the GFDL

### 1 Venn Diagrams

*Directions:* (1) Write out each of the following mood and figures into standard form, using **S** and **P** for the minor and major terms and **M** for the middle term. (2) Test the validity of each form by means of Venn diagrams. (3) Name the syllogistic fallacy committed by each of those forms which are invalid.

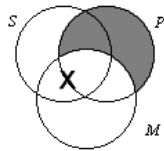
1. **OA0-2**



Some  $P^U$  is not M.  
 All S is M.  
 -----  
 Some S is not  $P^D$ .

Evaluation: Illicit Major

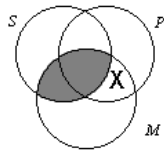
2. **AII-2**



All P is  $M^U$ .  
 Some S is  $M^U$ .  
 -----  
 Some S is P.

Evaluation: Undistributed Middle

3. **IEO-1**



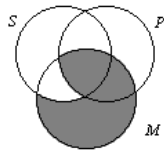
Some M is  $P^U$ .  
 No S is M.  


---

 Some S is not  $P^D$ .

Evaluation: Illicit Major

4. **EAO-4**



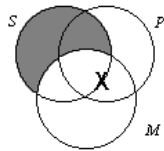
No P is M.  
 All M is S.  


---

 Some S is not P.

Evaluation: Existential Fallacy

5. **IAI-2**



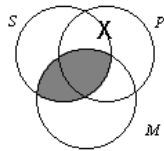
Some P is  $M^U$ .  
 All S is  $M^U$ .  


---

 Some S is P.

Evaluation: Undistributed Middle

6. **OEO-4**



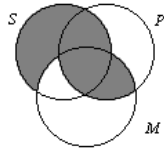
Some  $P^U$  is not M.  
 No M is S.  


---

 Some S is not  $P^D$ .

Evaluation: Exclusive Premises; Illicit Major

7. **EAA-1**



No M is P.  
 All S is M.  

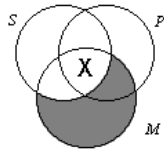

---

 All S is P.

Evaluation: Affirmative Conclusion from a Negative Premise

---

8. **IAO-3**



Some M is  $P^U$ .  
 All M is S.  

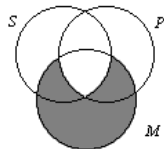

---

 Some S is not  $P^D$ .

Evaluation: Illicit Major

---

9. **AAA-3**



All M is P.  
 All M is  $S^U$ .  

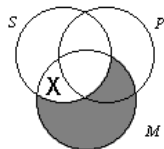

---

 All  $S^D$  is P.

Evaluation: Illicit Minor

---

10. **OAA-3**



Some M is not P.  
 All M is  $S^U$ .  

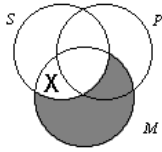

---

 All  $S^D$  is P.

Evaluation: Illicit Minor; Affirmative Conclusion from a Negative Premise

---

11. **OAI-3**



Some M is not P.  
 All M is S.  

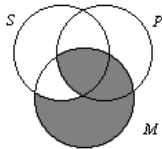

---

 Some S is P.

Evaluation: Affirmative Conclusion from a Negative Premise

---

12. **EAO-3**



No M is P.  
 All M is S.  

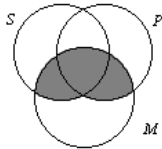

---

 Some S is not P.

Evaluation: Existential Fallacy

---

13. **EEE-1**



No M is P.  
 No S is M.  

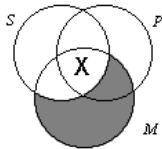

---

 No S is P.

Evaluation: Exclusive Premises

---

14. **IAA-3**



Some M is  $P^U$ .  
 All M is  $S^U$ .  

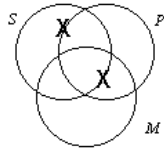

---

 All  $S^D$  is  $P^D$ .

Evaluation: Illicit Major; Illicit Minor

---

15. IOI-1



Some M is P.  
Some S is not M.  

---

Some S is P.

Evaluation: Affirmative Conclusion from Negative  
Premise

---