

## Categorical Logic: Syllogisms

The starred items are also contained in the Answer Key in the back of *The Power of Logic*.

### Exercise 6.1

#### Part A: Standard Form

- \*1.     1. All novels are books.  
       2. Some works of art are books.  
       So, 3. Some works of art are novels.
- 2. Already in standard form.
- 3. Already in standard form.
- \*4.     1. Some beautiful things are paintings.  
       2. All sculptures are beautiful things.  
       So, 3. Some sculptures are not paintings.
- 5.     1. All famous short stories are interesting stories.  
       2. Some short stories are not interesting stories.  
       So, 3. Some short stories are not famous short stories.
- 6.     1. No millionaires are poor people.  
       2. Some artists are millionaires.  
       So, 3. Some artists are not poor people.
- \*7.     1. All sadists are mean people.  
       2. All art critics are mean people.  
       So, 3. All art critics are sadists.
- 8.     1. All metaphors are words.  
       2. All metaphors are figures of speech.  
       So, 3. All figures of speech are words.
- 9. Already in standard form.
- \*10. Already in standard form.
- 11.     1. Some comedians are prophets.  
       2. Some comedians are poets.  
       So, 3. Some poets are prophets.
- 12. 1. All novelists are authors.  
       2. All authors are insightful people.  
       So, 3. All insightful people are novelists.
- \*13.     1. No aspiring actors are saints.  
       2. Some aspiring actors are not egoists.  
       So, 3. Some egoists are saints.
- 14. Already in standard form.
- 15.     1. No ancient Greek poets are people who are alive.  
       2. All people who are alive are artists.  
       So, 3. No artists are ancient Greek poets.

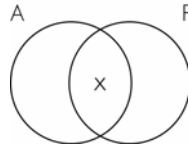
### Part C: Putting Syllogisms into Standard Form

- \*1.    1. All cowboys are people who love horses.  
      2. Some farmers are not people who love horses.  
      So, 3. Some farmers are not cowboys.
- 2.    1. All operas are events that include singers.  
          2. No rodeos are operas.  
          So, 3. No rodeos are events that include singers.
- 3.    1. No rock stars are rodeo stars.  
          2. Some rock stars are persons who love country music.  
          So, 3. Some persons who love country music are not rodeo stars.
- \*4.    1. No cowards are bull riders.  
      2. Some bull riders are fools.  
      So, 3. Some fools are not cowards.
- 5.    1. All cowgirls are talented riders.  
          2. No cowgirls are city slickers.  
          So, 3. No city slickers are talented riders.
- 6.    1. Some sheriffs are gunslingers.  
          2. All gunslingers are drifters.  
          So, 3. Some drifters are sheriffs.
- \*7.    1. No cattle rustlers are good guys.  
      2. All cowboys in white outfits are good guys.  
      So, 3. No cowboys in white outfits are cattle rustlers.
- 8.    1. All barkeeps who serve rotgut are bad guys.  
          2. Some barkeeps who serve rotgut are persons who will not live long.  
          So, 3. Some persons who will not live long are bad guys.
- 9.    1. All good movies are westerns.  
          2. All movies worth seeing are good movies.  
          So, 3. All movies worth seeing are westerns.
- \*10.   1. All bulls are animals that are hard to ride.  
      2. Some broncos are not bulls.  
      So, 3. Some broncos are not animals that are hard to ride.
- 11.   1. All cattle barons are wealthy landowners.  
          2. No wealthy landowners are buckaroos.  
          So, 3. No buckaroos are cattle barons.
- 12.   1. No bounty hunters are sodbusters.  
          2. Some outlaws are sodbusters.  
          So, 3. Some outlaws are not bounty hunters.
- \*13.   1. No trail bosses are hired hands.  
      2. Some ranchers are hired hands.  
      So, 3. Some ranchers are trail bosses.
- 14.   1. All horse thieves are people who will be hanged.  
          2. Some bandits are not horse thieves.  
          So, 3. Some bandits are not people who will be hanged.
- 15.   1. Some sheep ranchers are not fast guns.  
          2. All sheep ranchers are honest citizens.  
          So, 3. Some honest citizens are not fast guns.

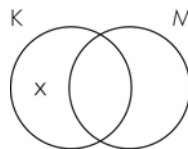
## Exercise 6.2

### Part A: Venn Diagrams and Standard Form

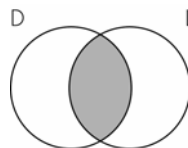
\*1. Some ancient philosophers are people who believed in the unreality of change.



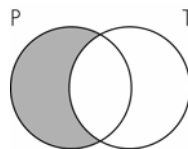
2. Some acts of killing are not acts of murder.



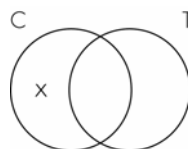
3. No divine beings are limited beings.



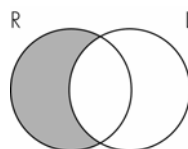
\*4. All people who deserve harsh treatment from the IRS are tax-dodgers.



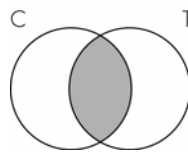
5. Some current musical hits are not things that will be hits next year.



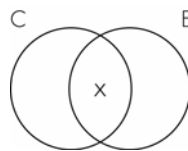
6. All people who believe in reincarnation are people who believe in life after death.



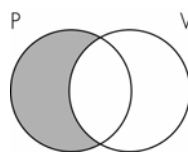
\*7. No chlorofluorocarbons are things that are good for the ozone layer.



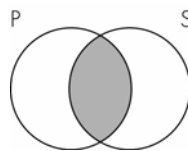
8. Some corporations are entities that cheat the government.



9. All people who should be incarcerated are violent offenders.

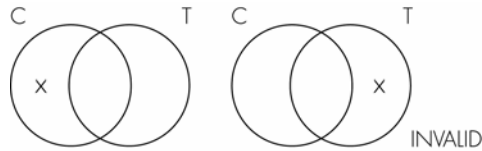


\*10. No physical entities are spiritual entities.

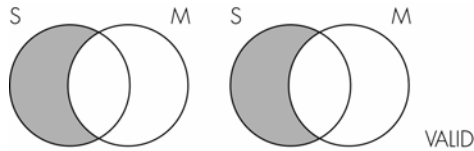


## Part B: Venn Diagrams and Arguments

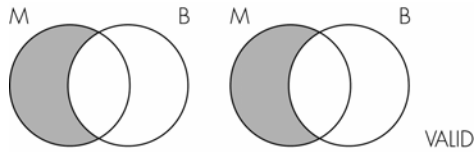
- \*1. Some chairs are not thrones. So, some thrones are not chairs.



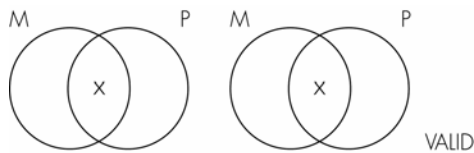
2. All scallops are mollusks. Hence, no scallops are nonmollusks.



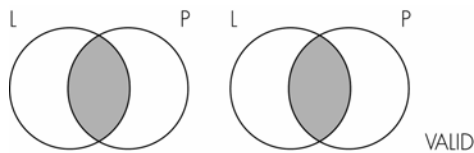
3. All minds are brains. Therefore, all nonbrains are nonminds.



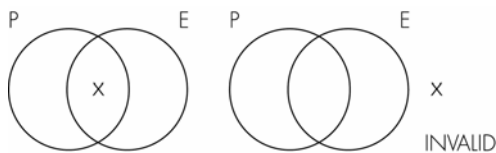
- \*4. Some married persons are persons who have attachment disorders. Thus, some persons who have attachment disorders are married persons.



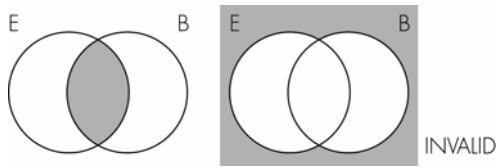
5. No laypersons are priests. It follows that all laypersons are nonpriests.



6. Some political philosophers are egalitarians. Accordingly, some nonegalitarians are things that are not political philosophers.

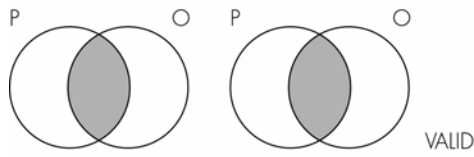


\*7. No elephants are beetles. Consequently, no nonbeetles are nonelephants.

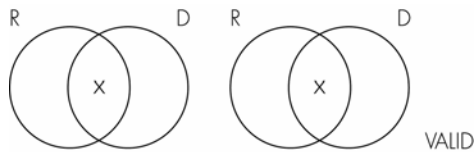


*Note regarding the diagram of the conclusion: The area of overlap between nonbeetles and nonelephants is the area outside BOTH circles; hence, the area outside both circles should be shaded in.*

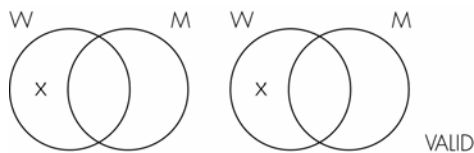
8. No Pickwickian interpretations are obvious interpretations. So, no obvious interpretations are Pickwickian interpretations.



9. Some rays are devilfish. Hence, some devilfish are not nonrays.



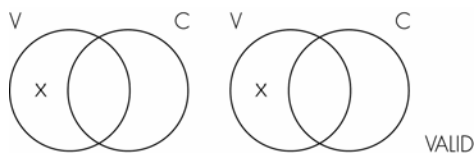
\*10. Some wines are not merlots. Therefore, some nonmerlots are not nonwines.



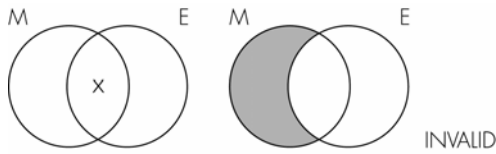
11. All acts of torture are immoral acts. It follows that all immoral acts are acts of torture.



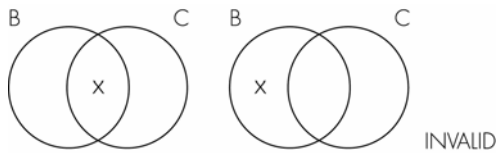
12. Some vipers are not copperheads. Consequently, some vipers are noncopperheads.



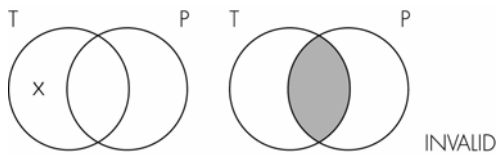
\*13. Some mammals are edentulous animals. Thus, all mammals are edentulous animals.



14. Some boring events are colloquia. Accordingly, some boring events are not colloquia.



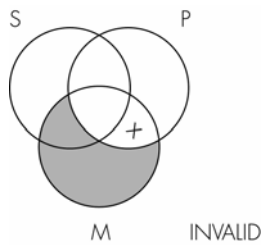
15. Some theists are not predestinarians. Therefore, no theists are predestinarians.



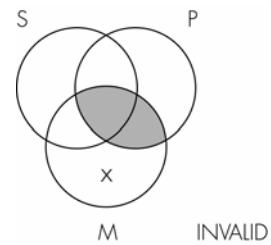
## Exercise 6.3

### Part A: Argument Forms

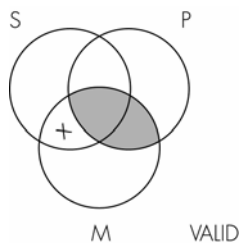
- \*1. 1. All M are P.  
2. Some M are not S.  
So, 3. Some S are not P.



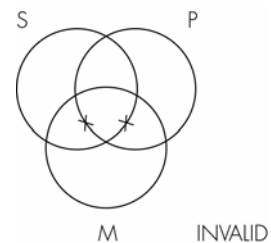
2. 1. No P are M.  
2. Some M are not S.  
So, 3. Some S are P.



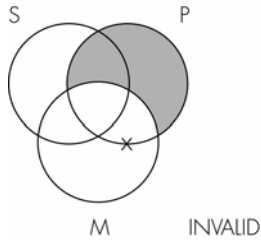
3. 1. No M are P.  
2. Some M are S.  
So, 3. Some S are not P.



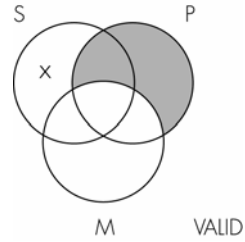
- \*4. 1. Some P are M.  
2. Some S are M.  
So, 3. Some S are P.



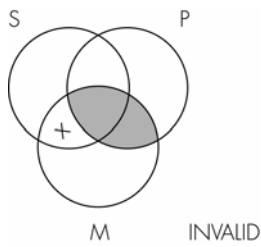
5. 1. All P are M.  
2. Some M are not S.  
So, 3. Some S are not P.



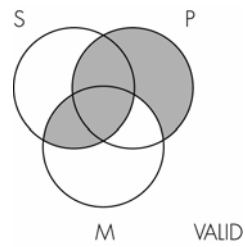
6. 1. All P are M.  
2. Some S are not M.  
So, 3. Some S are not P.



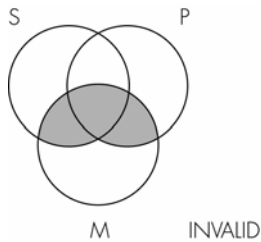
- \*7. 1. No P are M.  
2. Some M are S.  
So, 3. Some S are P.



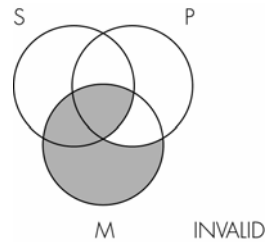
8. 1. All P are M.  
2. No S are M.  
So, 3. No S are P.



9. 1. No P are M.  
2. No S are M.  
So, 3. No S are P.

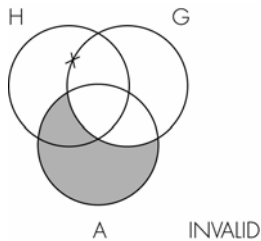


- \*10. 1. All M are P.  
2. No S are M.  
So, 3. No S are P.

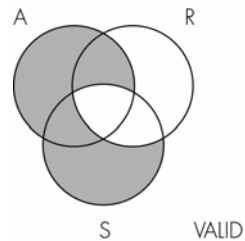


### Part B: Categorical Syllogisms

- \*1. 1. All Athenians are Greeks.  
2. Some humans are not Athenians.  
So, 3. Some humans are not Greeks.

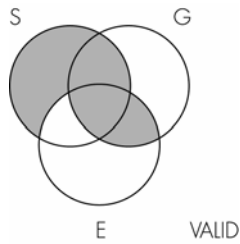


2. 1. All sentient things are rights-holders.  
2. All animals are sentient things.  
So, 3. All animals are rights-holders.

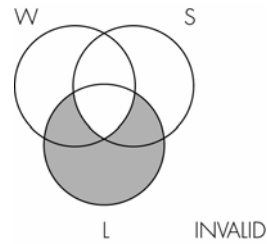




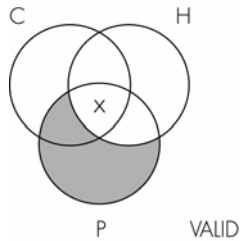
3. 1. No evil things are good things.  
 2. All serial killers are evil things.  
 So, 3. No serial killers are good things.



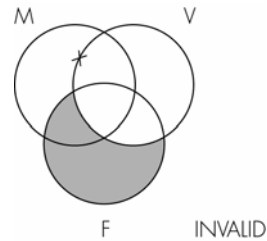
- \*4. 1. All liars are self-deceived persons.  
 2. All liars are wicked persons.  
 So, 3. All wicked persons are self-deceived persons.



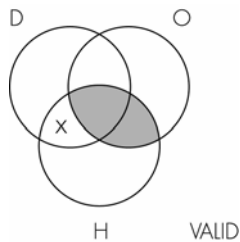
5. 1. All persons without a conscience are happy persons.  
 2. Some criminals are persons without a conscience.  
 So, 3. Some criminals are happy persons.



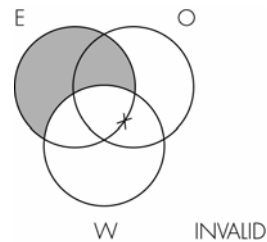
6. 1. All persons who have faith are virtuous persons.  
 2. Some highly moral people are not persons who have faith.  
 So, 3. Some highly moral people are not virtuous persons.



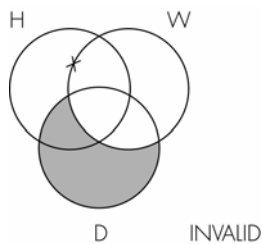
- \*7. 1. No human beings are omniscient beings.  
 2. Some divine beings are human beings.  
 So, 3. Some divine beings are not omniscient beings.



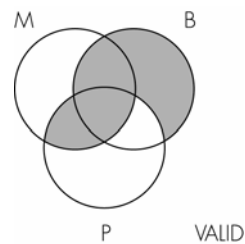
8. 1. Some wars are things ordained by God.  
 2. All great evils are wars.  
 So, 3. Some great evils are things ordained by God.



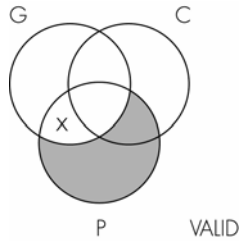
9. 1. All acts worth doing are acts worth doing well.  
 2. Some hobbies are not acts worth doing.  
 So, 3. Some hobbies are not acts worth doing well.



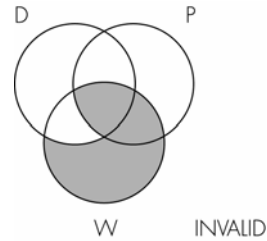
- \*10. 1. All brain events are physical events.  
 2. No mental events are physical events.  
 So, 3. No mental events are brain events.



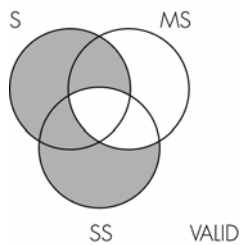
- 11.** 1. Some philosophical views are not views worth considering.  
 2. All philosophical views are views that have been held by geniuses.  
 So, 3. Some views that have been held by geniuses are not views worth considering.



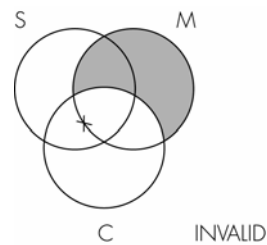
- 12.** 1. No wicked persons are persons utterly without a conscience.  
 2. All wicked persons are deeply confused individuals.  
 So, 3. No deeply confused individuals are persons utterly without a conscience.



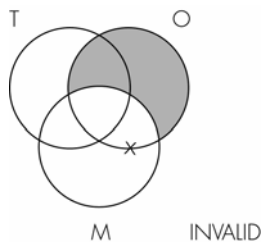
- \*13.** 1. All similarity statements are metaphorical statements.  
 2. All statements are similarity statements.  
 So, 3. All statements are metaphorical statements.



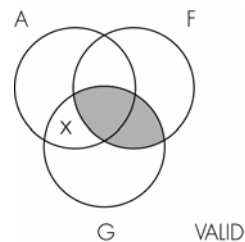
- 14.** 1. All morally permissible acts are acts that conform to the categorical imperative.  
 2. Some acts of suicide are acts that conform to the categorical imperative.  
 So, 3. Some acts of suicide are morally permissible acts.



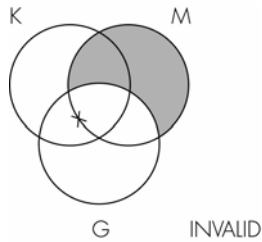
- 15.** 1. All obligatory acts are acts that maximize utility.  
 2. Some acts that maximize utility are not prescribed by the Ten Commandments.  
 So, 3. Some acts prescribed by the Ten Commandments are not obligatory acts.



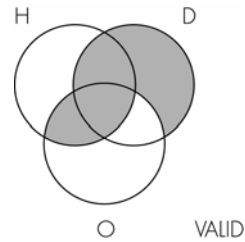
- \*16.** 1. No acts foreknown by God are free acts.  
 2. Some acts are acts foreknown by God.  
 So, 3. Some acts are not free acts.



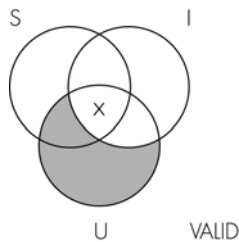
17. 1. All moral acts are acts approved of by God.  
 2. Some acts of killing are acts approved of by God.  
 So, 3. Some acts of killing are moral acts.



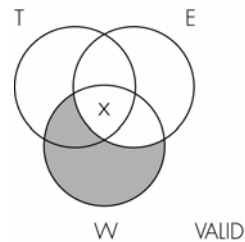
18. 1. All divine beings are omnipotent beings.  
 2. No human beings are omnipotent beings.  
 So, 3. No human beings are divine beings.



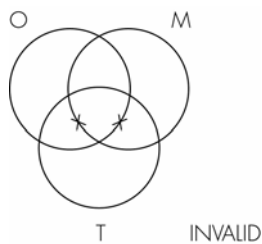
- \*19. 1. All unhappy persons are persons who have inner conflicts.  
 2. Some successful comedians are unhappy persons.  
 So, 3. Some successful comedians are persons who have inner conflicts.



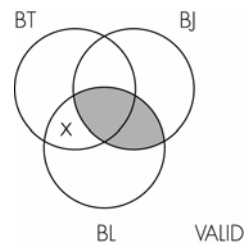
20. 1. All persons who have walked over others to get to the top are evil persons.  
 2. Some tycoons are persons who have walked over others to get to the top.  
 So, 3. Some tycoons are evil persons.



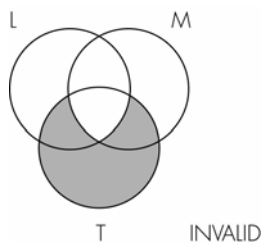
21. 1. Some trees are maples.  
 2. Some trees are oaks.  
 So, 3. Some oaks are maples.



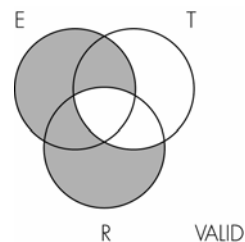
22. 1. No balalaikas are banjos.  
 2. Some balalaikas are beautiful things.  
 So, 3. Some beautiful things are not banjos.



23. 1. All tyrants are mendacious persons.  
 2. All tyrants are liars.  
 So, 3. All liars are mendacious persons.



24. 1. All aphorisms are apothegms.  
 2. All epigrams are aphorisms.  
 So, 3. All epigrams are apothegms.



25. 1. All Saint Bernards are large dogs.  
2. Some large dogs are not brown dogs.  
So, 3. Some brown dogs are not Saint Bernards.

