Put the following arguments into standard form and omit anything that does not affect the validity of the argument or the truth of its premises.

1. Philadelphia is rich in history, but it is not now the capital of the United States, so the United States Congress must meet somewhere else.

(1) Philadelphia is not the capital of the US

(2) Congress meets at the US capital

∴(3) Congress does not meet in Philadelphia

1. Not everybody whom you invited is going to come to your party. Some of them won’t come. So this room should be big enough.

(1) Not all people invited will show up to the party

∴(3) The room is big enough for the party

1. I know that my wife is at home, since I just called her there and spoke to her. We talked about our dinner plans.

(1) My wife told me she was home

∴(3) My wife is home

1. I’m not sure, but Joseph is probably Jewish. Hence, he is a rabbi if he is a member of the clergy.

(1) Jewish clergy members are called rabbis

∴(3) If Joseph is Jewish, they he is a rabbi

1. Some students could not concentrate on the lecture, because they did not eat lunch before class, although I did.

(1) If you skip a meal, it is hard to concentrate

(2) Some students skipped lunch before class

∴(3) Some students could not concentrate

1. The most surprising news of all is that Johnson dropped out of the race because he thought his opponent was better qualified than he was for the office.

(1) Johnson though his opponent was better qualified for the office

∴(3) Johnson dropped out of the race

1. The Democrat is likely to win, since experts agree that more women sup-port him.

(1) If more women vote for the Democratic candidate

∴(3) The Democratic candidate will win

1. It seems to me that married people are happier, so marriage must be a good thing, or at least I think so.

(1) Marriage makes people happier

∴(3) Marriage is a good thing

Put the following arguments into standard form. Break up the premises and form chains of arguments wherever this can be done without distorting the argument. Then diagram the argument.

1. I know that Pat can’t be a father, because she is not a male. So she can’t be a grandfather either.

∴(1) Fathers must be male

∴(2) Grandfathers must be male

(3) Pat is not male

∴(4) Pat is neither a father nor a grandfather

2. Either Jack is a fool or Mary is a crook, because she ended up with all of his money.

(1) Jack is a fool or Mary is a crook

∴ (2) Mary has all of Jack’s money

3. Our team can’t win this Saturday, both because they are not going to play, and because they are no good, so they wouldn’t win even if they did play.

(1) Our team is not playing on Saturday

∴(2) Our team cannot win on Saturday

4. Mercury is known to be the only metal that is liquid at room temperature, so a pound of mercury would be liquid in this room, which is at room temperature, and it would also conduct electricity, since all metals do. Therefore, some liquids do conduct electricity.

(1) All metals conduct electricity

(2) Metal can be liquid

∴(3) Some liquids conduct electricity

5. Since he won the lottery, he’s rich and lucky, so he’ll probably do well in the stock market, too, unless his luck runs out.

(1) He won the lottery

∴(2) He is rich and luck

∴(3) He will do well in the stock market unless his luck runs out

6. Joe is not a freshman, since he lives in a fraternity, and freshmen are not allowed to live in fraternities. He also can’t be a senior, since he has not declared a major, and every senior has declared a major. And he can’t be a junior, because I never met him before today, and I would have met him before now if he were a junior. So Joe must be a sophomore.

(1) Freshmen are not allowed to live in fraternities

(2) Joe lives in a fraternity

∴(3) Joe is not a Freshmen

(4) Seniors must declare a major

(5) Joe has not declared a major

∴(6) Joe is not a Senior

(7) I have met all Juniors

(8) I haven’t met Joe

∴(9) Joe is not a Junior

∴(10) Joe is a sophomore

7. Since many newly emerging nations do not have the capital resources necessary for sustained growth, they will continue to need help from industrial nations to avoid mass starvation.

(1) Substantial resources are needed for sustained growth

(2) Many new nations do not have substantial resources

∴(3) If a new nation does not have help, the country may experience starvation

The following arguments depend for their validity on suppressed premises of various kinds. For each of them, list enough suppressed premises to make the argument valid and also to show why it is valid. This might require several suppressed premises of various kinds.

Example:

Carol has no sisters, because all her siblings are brothers.

Suppressed Premises:

A sister would be a sibling. A brother is not a sister.

1. Britney Spears is under age thirty-five. Therefore, she cannot run for president of the United States.

**Suppressed Argument:** You must be at least 35 to run for POTUS, Britney Spears is too young.

(1) Britney Spears is under 35

∴(2) Britney Spears cannot run for president

2. Nixon couldn’t have been president in 1950 because he was still in the Senate.

**Suppressed Argument:** A US politician cannot hold a senator’s seat and the be president. Since Nixon was a Senator in 1950, he could not be the POTUS.

(1) A person cannot be a senator and the president at the same time

(2) Nixon was a senator in 1950

∴(3) Nixon was not the President in 1950

~~3. 81 is not a prime number, because 81 is divisible by 3.~~

4. There’s no patient named Rupert here; we have only female patients.

**Suppressed Argument:** Rupert is a male name, her cannot be a patient at an all-female facility.

(1) This facility had only female patients

(2) Rupert is a male name

∴(3) Rupert is not a patient here

5. Columbus did not discover the New World because the Vikings explored Newfoundland centuries earlier.

**Suppressed Argument:** Newfoundland is a part of the New World and the Vikings discovered it before Columbus

(1) The Vikings discovered Newfoundland

(2) Newfoundland is a part of the New World

(3) The Vikings predate Columbus

∴(4)The Vikings discovered the New World first

6. There must not be any survivors, since they would have been found by now.

**Suppressed Argument:** Survivors are not this time consuming to find

(1) We have not found any survivors

(2) Survivors take less time to find

∴(3) There must not be any survivors

7. Lincoln could not have met Washington, because Washington was dead before Lincoln was born.

**Suppressed Argument:** You cannot meet a dead person

(1) Lincoln was born after Washington died

(2) You cannot meet dead people

∴(3) Lincoln did not meet Washington

~~8. Philadelphia cannot play Los Angeles in the World Series, since they are both in the National League.~~

~~9. Mildred must be over forty-three, since she has a daughter who is thirty- six years old.~~

~~10. He cannot be a grandfather because he never had children.~~

11. That’s not modern poetry; you can understand it.

**Suppressed Argument:** Modern poetry is unintelligible or too cryptic to understand

(1) The poetry is old

(2) Old poetry is easier to understand

∴(3) The poetry can be understood

12. Harold can’t play in the Super Bowl, because he broke his leg.

**Suppressed Argument:** Injured people cannot play in the Super Bowl

(1) Harold is injured

(2) People cannot play injured

∴(3) Harold cannot play in the Super Bowl

~~13. Shaquille must be a basketball player, since he is so tall.~~

14. Dan is either stupid or very cunning, so he must be stupid.

**Suppressed Argument:** Dan is not cunning

(1) If Dan is not stupid, then he is cunning

(2) Dan is not cunning

∴(3) Dan is stupid

15. Susan refuses to work on Sundays, which shows that she is lazy and inflexible.

**Suppressed Argument:** Motivated and flexible employees are willing to work any day

(1) If you are unwilling to work any day, you are lazy and inflexible

(2) Susan will not work on Sundays

∴(3) Susan is lazy and inflexible

~~16. Jim told me that Mary is a professor, so she can’t be a student, since professors must already have degrees.~~

17. This burglar alarm won’t work unless we are lucky or the burglar uses the front door, so we can’t count on it.

**Suppressed Argument:** The burglar alarm is unreliable, we do not have enough protection

(1) If a burglar tries to break in, the alarm won’t stop him/her

∴(2) We more protection

~~18. His natural talents were not enough; he still lost the match because he had not practiced sufficiently.~~