Deductive Reasoning Practice

Determine whether you can make a valid conclusion from each set of statements. If so, write the conclusion. If not, write “no conclusion.”

1. Statement 1: If you are at least 18 years old, then you can vote.
   Statement 2: You can vote.
   Conclusion:

2. Statement 1: If it rains, then the field will be muddy.
   Statement 2: If the field is muddy, then the game will be cancelled.
   Conclusion:

3. Statement 1: If two angles form a linear pair, then they are supplementary.
   Statement 2: \(\angle A\) and \(\angle B\) are supplementary.
   Conclusion:

4. Statement 1: If two angles form a linear pair, then they are supplementary.
   Statement 2: If two angles are supplementary, then the sum of their measures is 180°.
   Conclusion:

5. Statement 1: If something is a Tupp, then it is a Yip.
   Statement 2: If something is a Yip, then it is a Quop.
   Conclusion:

6. Statement 1: If something is a Tupp, then it is a Yip.
   Statement 2: If something is a Tupp, then it is a Gopp.
   Conclusion:
7. **Given the Venn diagram and the statement** *Joe is a Pow*, which of the following statements **MUST** be true? (Circle all that are true.)

A. Joe is a Leb.
B. Joe is a Wuff.
C. If you are a Pow, then you are a Wuff.
D. If you are a Wuff, then you are a Leb.
E. If you are a Leb, then you are a Wuff.
F. If Henry is not a Pow, then Henry is not a Wuff.
G. If Lucy is not a Leb, then Lucy is not a Pow.

**Determine if the conclusion is valid or invalid.**

8. **Statement 1:** If it is Tuesday, then Marla tutors Chemistry.
**Statement 2:** If Marla tutors Chemistry, then she arrives home at 4 p.m.

**Conclusion:** If Marla arrives home at 4 p.m., then it is Tuesday.

9. **Statement 1:** If a marine animal is starfish, then it lives in the intertidal zone of the ocean.
**Statement 2:** The intertidal zone is the least stable of the ocean zones.

**Conclusion:** If a marine animal is a starfish, then it lives in the least stable of the ocean zones.

10. **Statement 1:** If a whole number is even, then its square is divisible by 4.
**Statement 2:** The number I am thinking of is an even whole number.

**Conclusion:** The square of the number I am thinking of is divisible by 4.

11. **Statement 1:** If the football team wins its homecoming game, then Conrad will attend the school dance the following Friday.
**Statement 2:** Conrad attends the school dance on Friday.

**Conclusion:** The football team won the homecoming game.