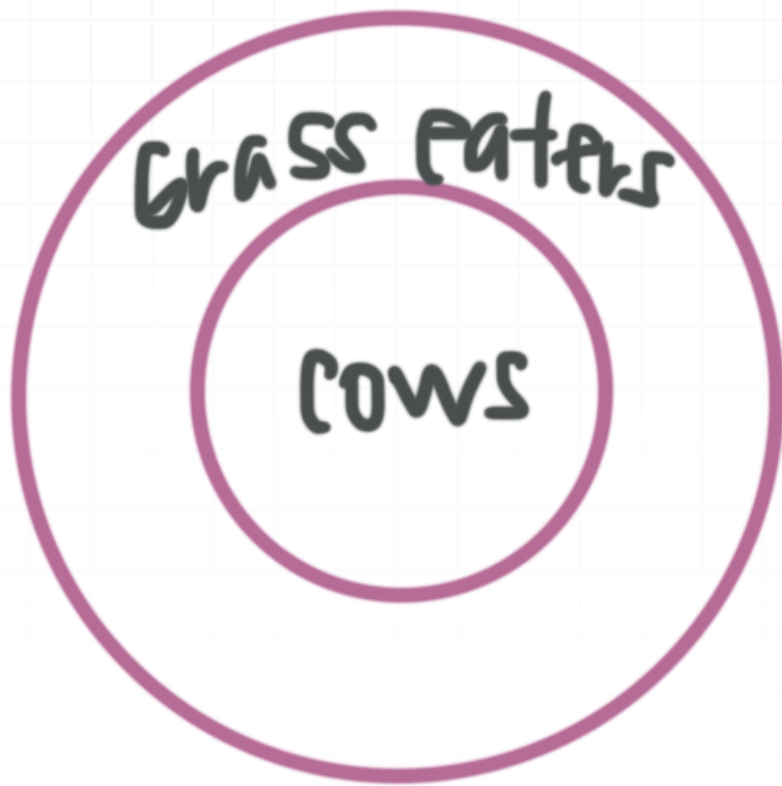


Topic: Conditionals and Euler diagrams

Question: Which if/then statement corresponds to the Euler diagram below?

**Answer choices:**

- A If it's a cow, it eats grass.
- B If it eats grass, it's a cow.
- C If it eats oats, it's not a cow.
- D If it's a cow, it doesn't eat Jell-O.



Solution: A

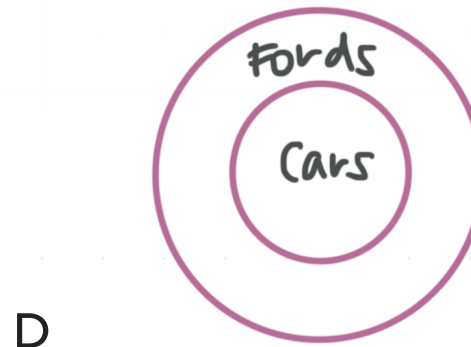
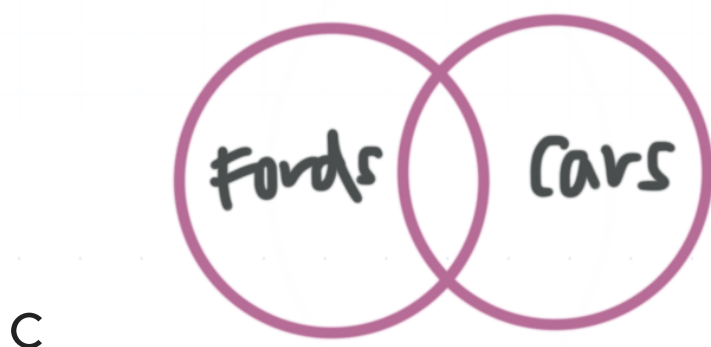
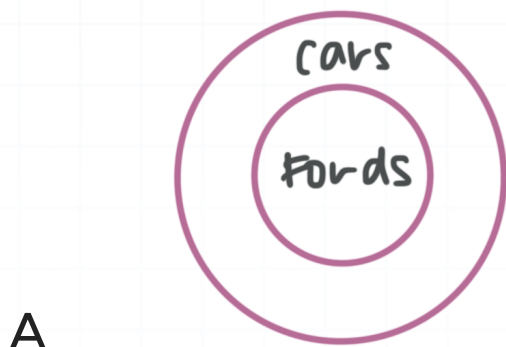
Answer choice A is correct. The set of cows is entirely inside the set of grass eaters, meaning that every cow is a grass eater.



Topic: Conditionals and Euler diagrams

Question: Choose the Euler diagram below that corresponds to the statement “All cars are Fords.”

Answer choices:



Solution: D

Answer choice D is the right one. The statement “All cars are Fords” is equivalent to the conditional statement

“If it is a car, then it is a Ford.”

Diagram-wise, that means that the set of all cars must be totally inside the set of all Fords, as in D.

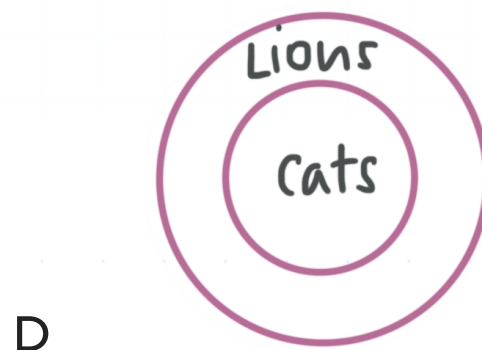
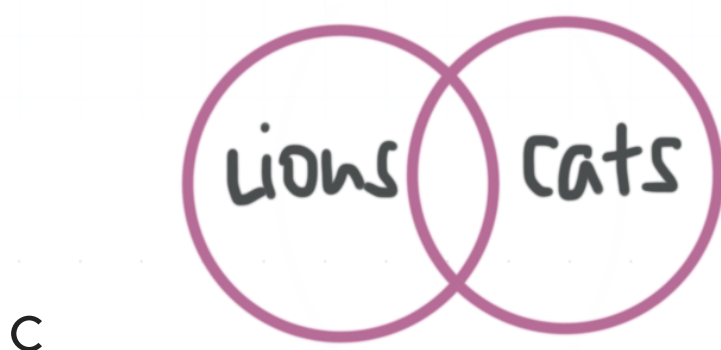
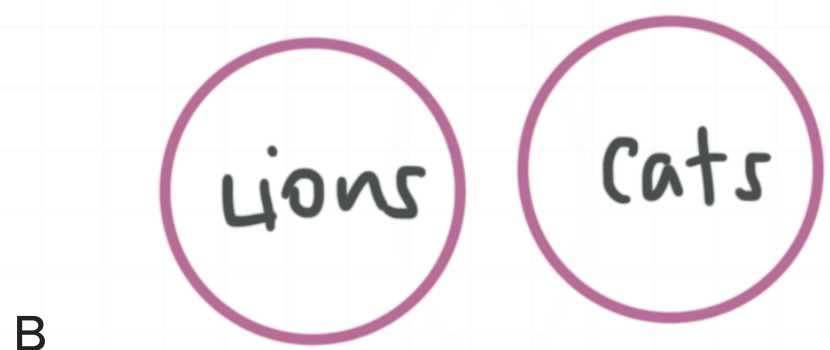
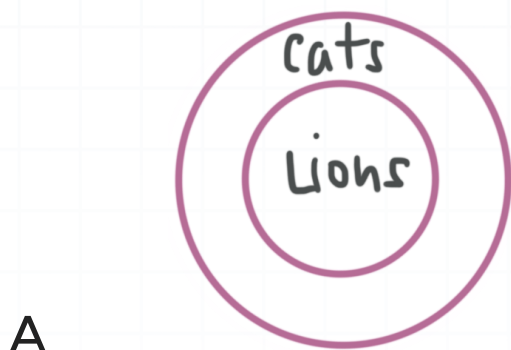
Of course, the statement “All cars are Fords” happens to be false, but D is still the correct diagram for that statement.



Topic: Conditionals and Euler diagrams

Question: Choose the Euler diagram below that corresponds to the statement “Every lion is a cat, but not every cat is a lion.”

Answer choices:



Solution: A

The statement “Every lion is a cat” tells us that the group “lions” is contained within the group “cat.” And the statement “not every cat is a lion” tells us that there are some cats which are not lions (like domesticated cats, tigers, leopards, etc.).

Notice how diagram A shows that within the set of all cats, there is a set of lions, but there's an area around lions to represent the set of cats that aren't lions.

In other words, it shows that only some of the cats are lions, but that every single lion must also be called a cat, just what we wanted it to show.

