CRITICAL THINKING

Workshop #11

Assessing Categorical Syllogisms

Professor David Emmanuel Gray

Explanation of Annotations for These Solutions

The problem is in black Futura Std type.

The solution is in red Garamond Premier Pro type.

Any commentary is in blue Futura Std type.

Please Note: When solving these types of problems for a quiz or an exam, you are expected to format your own solutions in a similar manner as I have done on these slides. Failure to do so may result in a small penalty for not following instructions or even a larger penalty because I do not understand your solution.
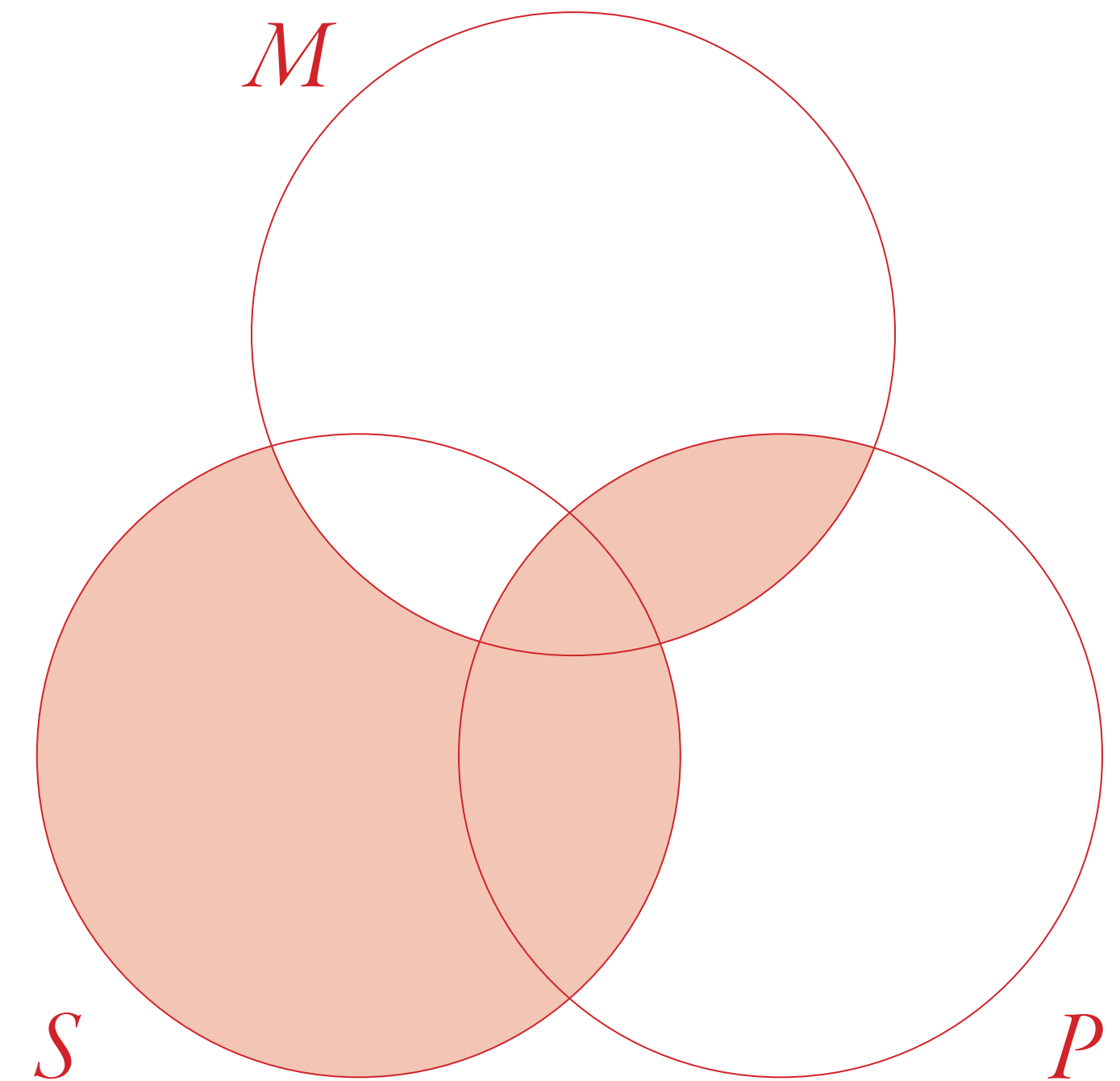
Part I Solutions

1.
    1.   No *P* is *M*.
    2.   All *S* is *M*.

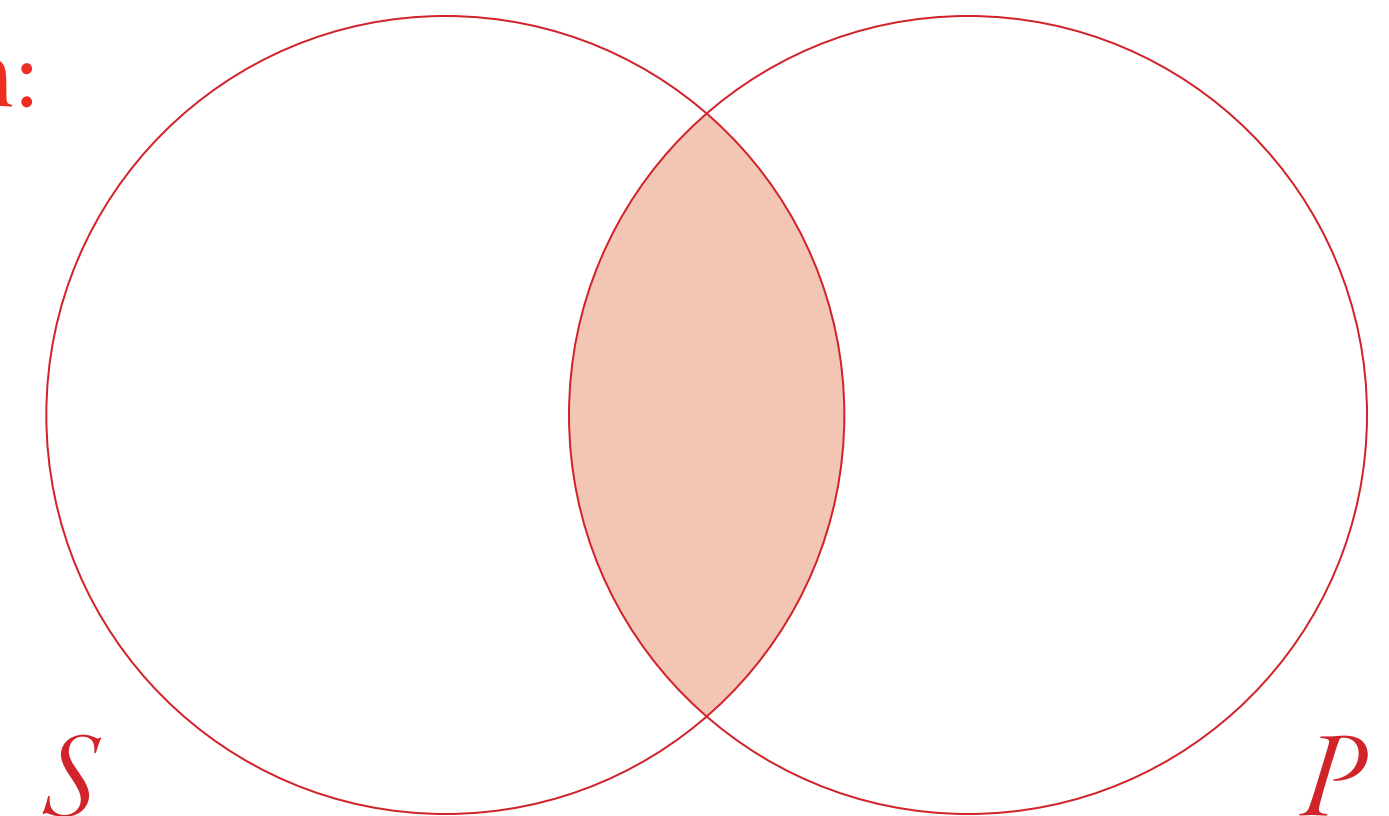   ∴   No *S* is *P*.

This argument is *valid*.

The conclusion requires that the area of overlap between *S* and *P* be empty. Looking at the premises' diagram, that area of overlap is indeed empty. So assuming the truth of the premises means that the conclusion is true as well, making this valid.

This argument's form (**EAE-2**) is known as *Cesare* in Latin.
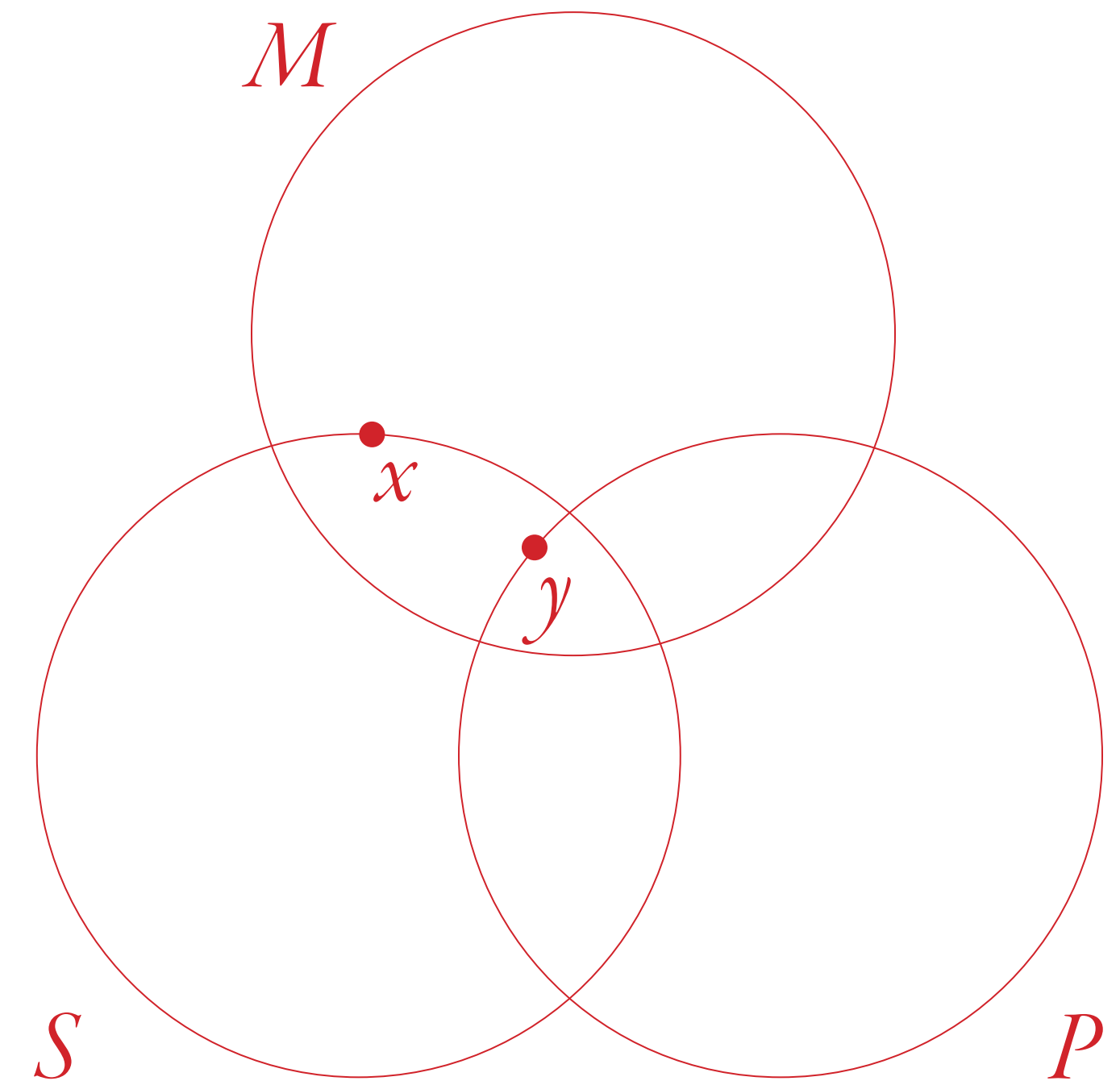
The Premises:

The Conclusion:

Part I Solutions

2. 1.   Some *M* is not *P*.
    2.   Some *S* is *M*.
    _____
    ∴   Some *S* is *P*.

This argument is *invalid*.
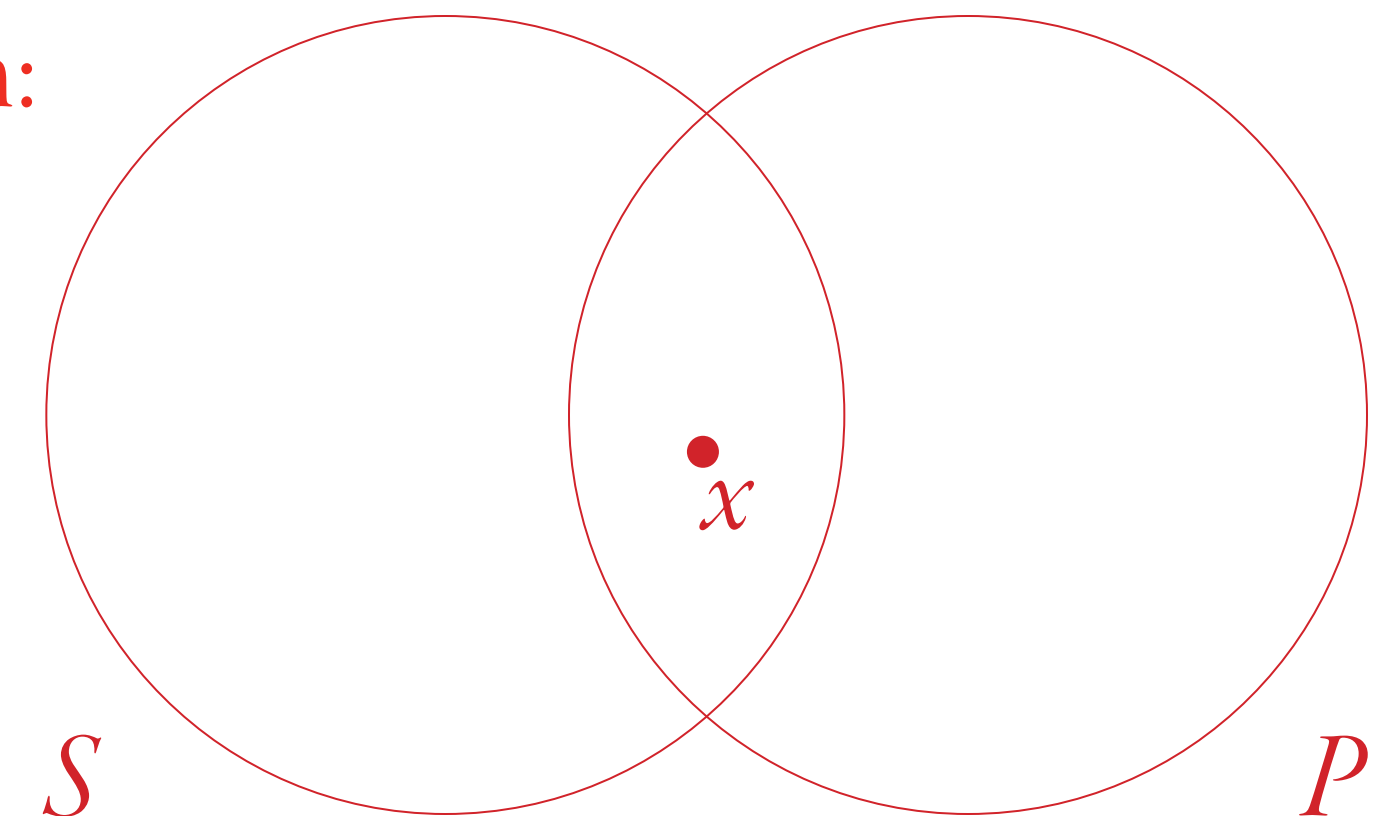
The conclusion requires that there be something in the area of overlap between *S* and *P*. Looking at the premises' diagram, we do not know for sure whether there is something in that area of overlap (the premises' dot-*y* may be in that area, but we cannot be sure). So assuming the truth of the premises is not enough to show that the conclusion must be true, making this invalid.

This argument's form is **OII-1**.

The Premises:

The Conclusion:

Part I Solutions
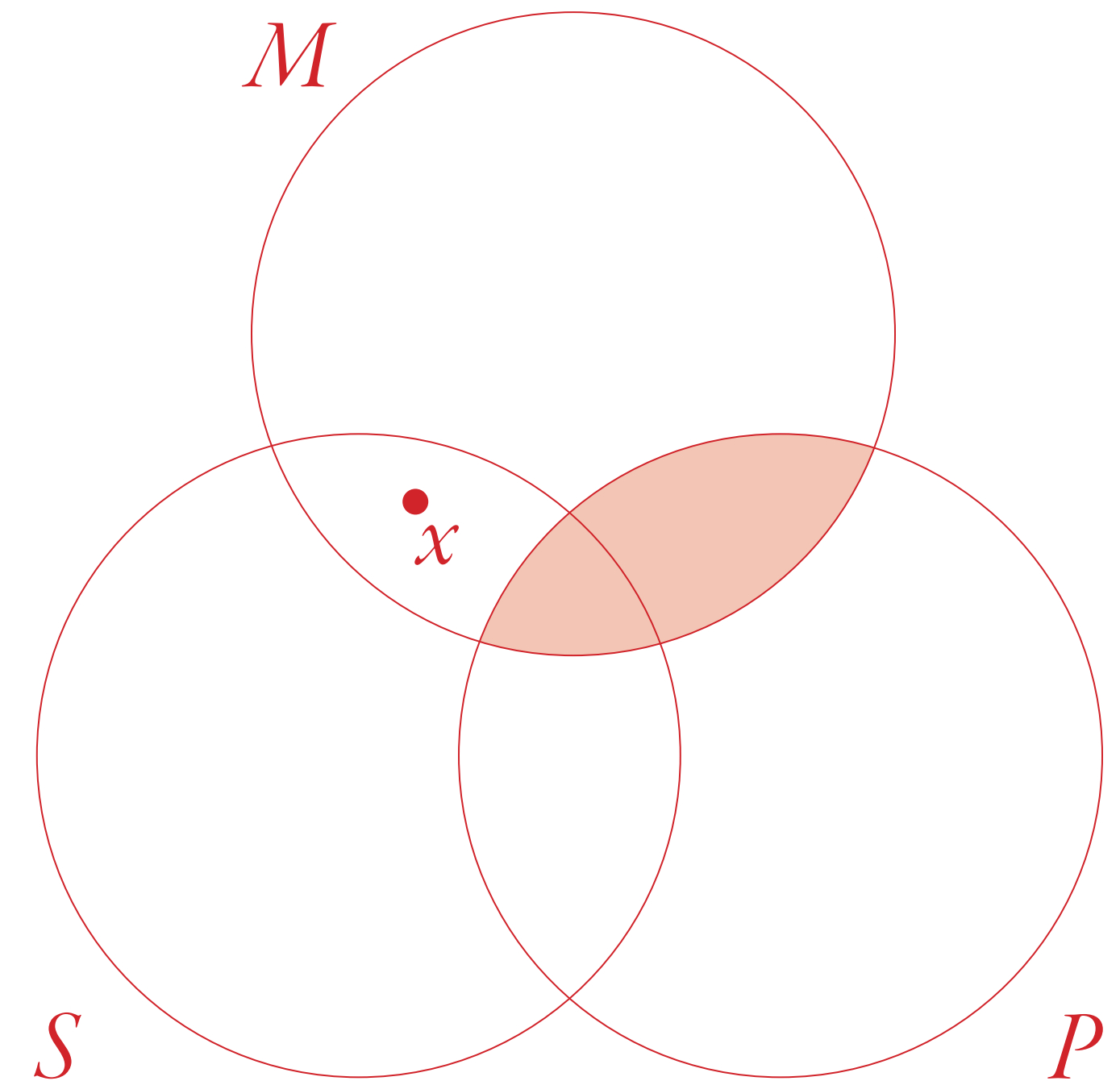
3. 1. No *P* is *M*.
    2. Some *M* is *S*.
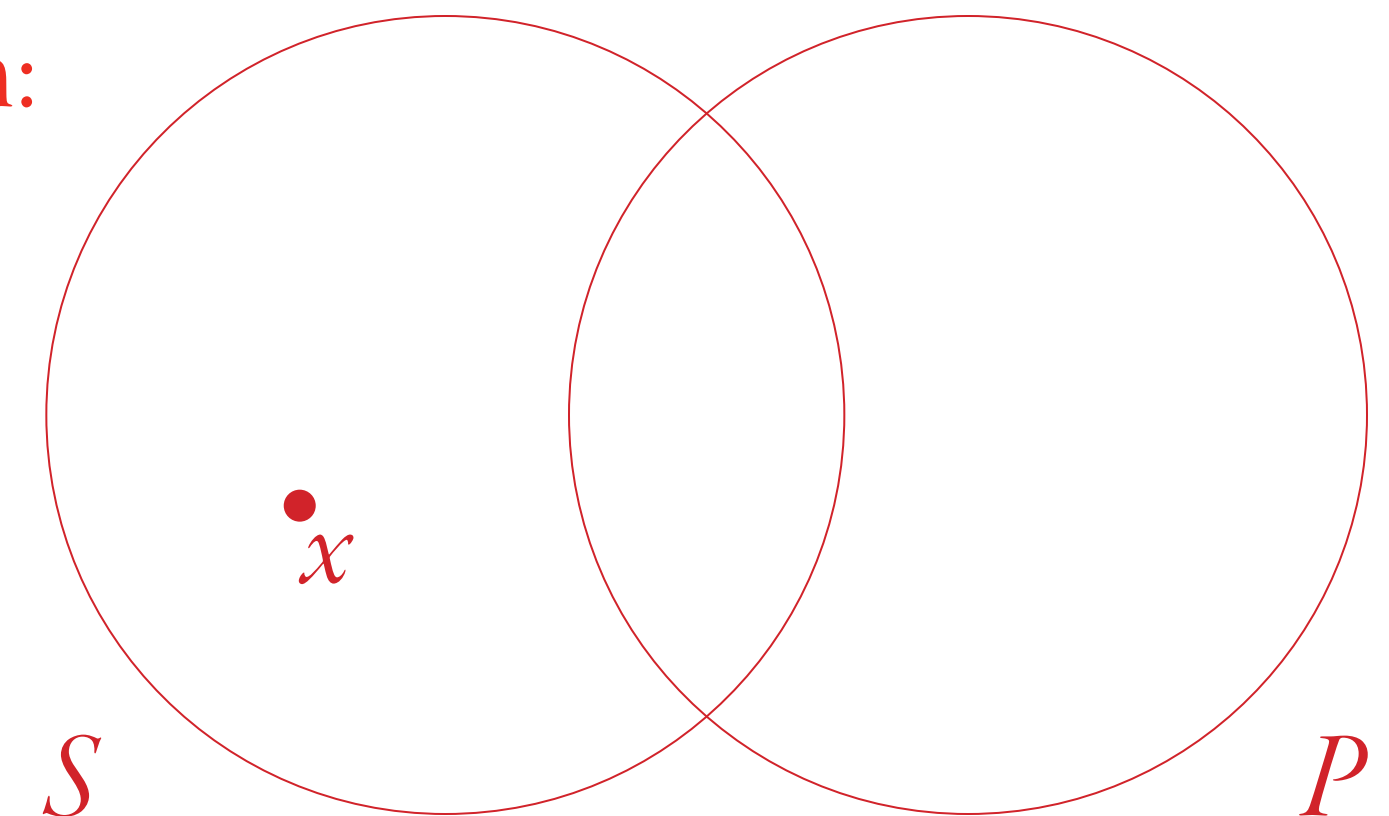   ∴ Some *S* is not *P*.

This argument is *valid*.

The conclusion requires that there be something in the area of *S* outside *P*. Looking at the premises' diagram, that area indeed has something in it. So assuming the truth of the premises means that the conclusion is true as well, making this valid.

This argument's form (**EIO-4**) is known as *Fresison* in Latin.

The Premises:

The Conclusion:

Part II Solutions

1. Some enterprising entrepreneurs are not empathic people, for all gifted and thoughtful problem solvers are enterprising entrepreneurs, and some gifted and thoughtful problem solvers are not empathic people.

Major Term (P): Empathetic people.
Minor Term (S): Enterprising entrepreneurs.
Middle Term (M): Gifted and thoughtful problem solvers.

1. Some M is not P.
2. All M is S.
∴ Some S is not P.

This argument is *valid*.

The conclusion requires that there be something in the area of enterprising entrepreneurs (S) outside empathetic people (P). Looking at the premises' diagram, that area indeed has something in it. So assuming the truth of the premises means that the conclusion is true as well, making this valid.

This argument's form (**OAO-3**) is known as *Bokardo* in Latin.

The Premises:
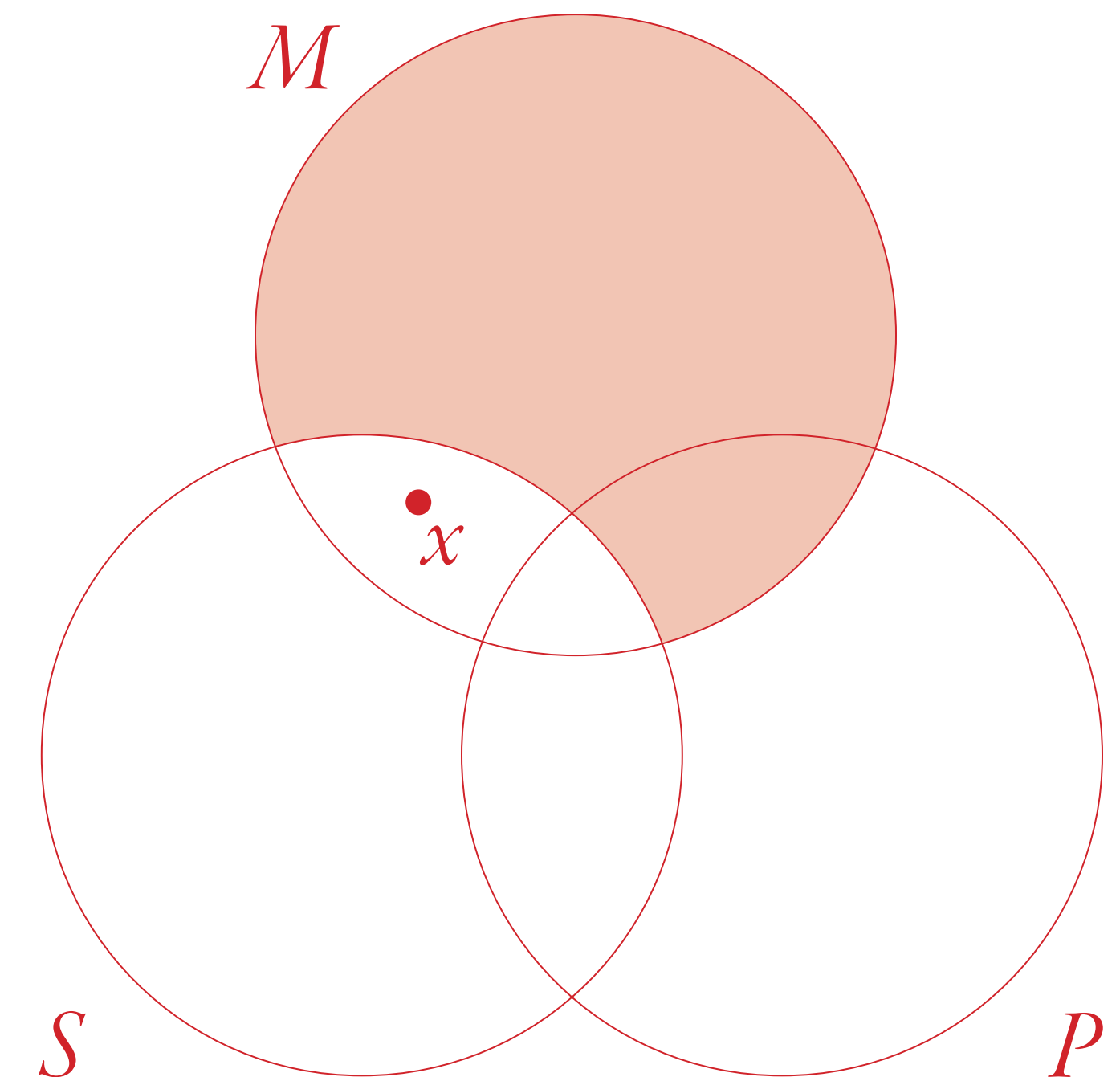
The Conclusion:
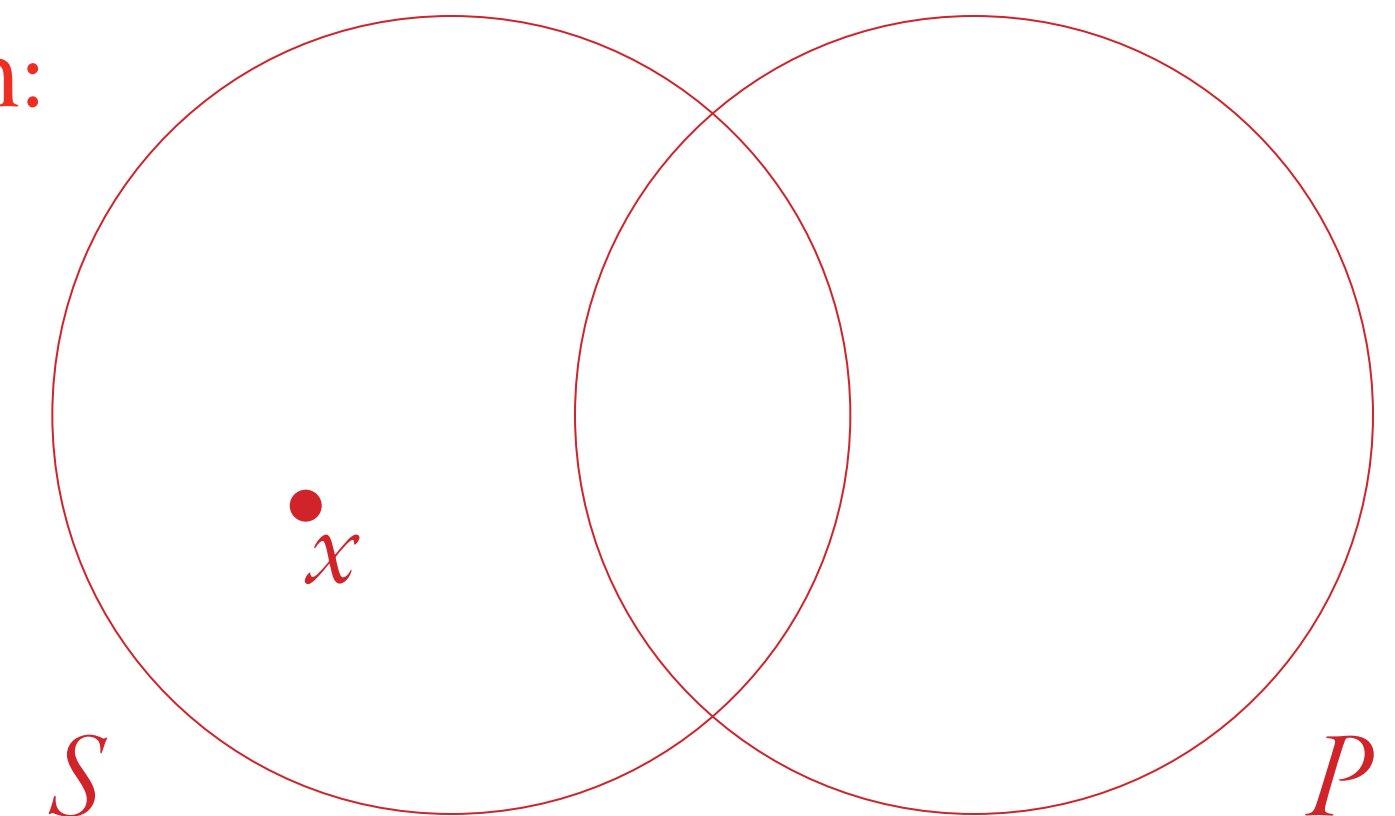
Part II Solutions

2. All roses are flowers, and some flowers fade quickly. Therefore, some roses fade quickly.

Major Term (*P*): Things that fade quickly.
Minor Term (*S*): Roses.
Middle Term (*M*): Flowers.

1. Some *M* is *P*.
2. All *S* is *M*.
∴ Some *S* is *P*.

This argument is *invalid*.

The conclusion requires that there be something in the area of overlap between roses (*S*) and things that fade quickly (*P*). Looking at the premises' diagram, we do not know for sure whether there is something in that area of overlap (the premises' dot-*x* may be in that area, but we cannot be sure). So assuming the truth of the premises is not enough to show that the conclusion must be true, making this invalid.

This argument's form is **IAI-1**.

The Premises:
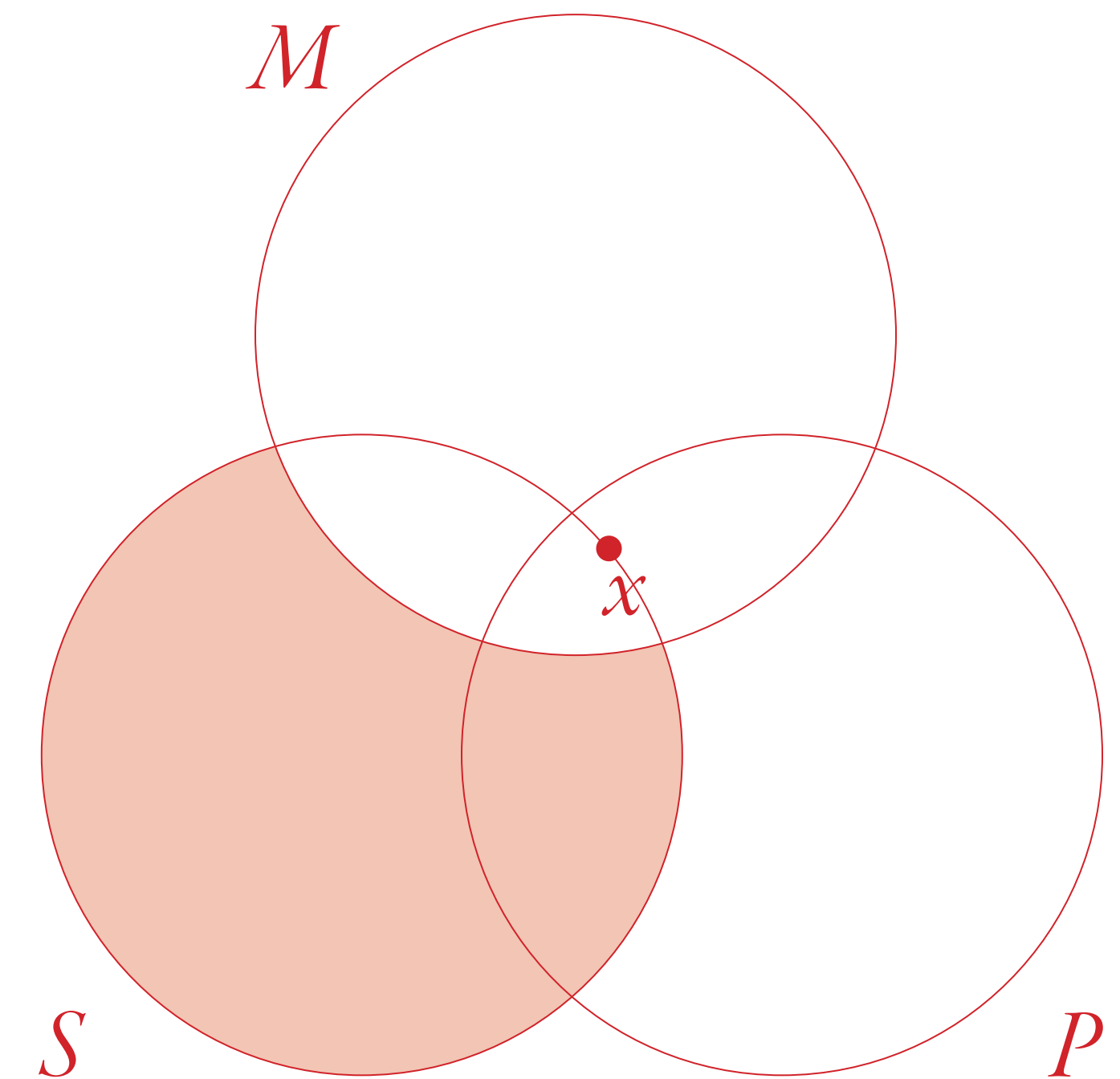
The Conclusion:
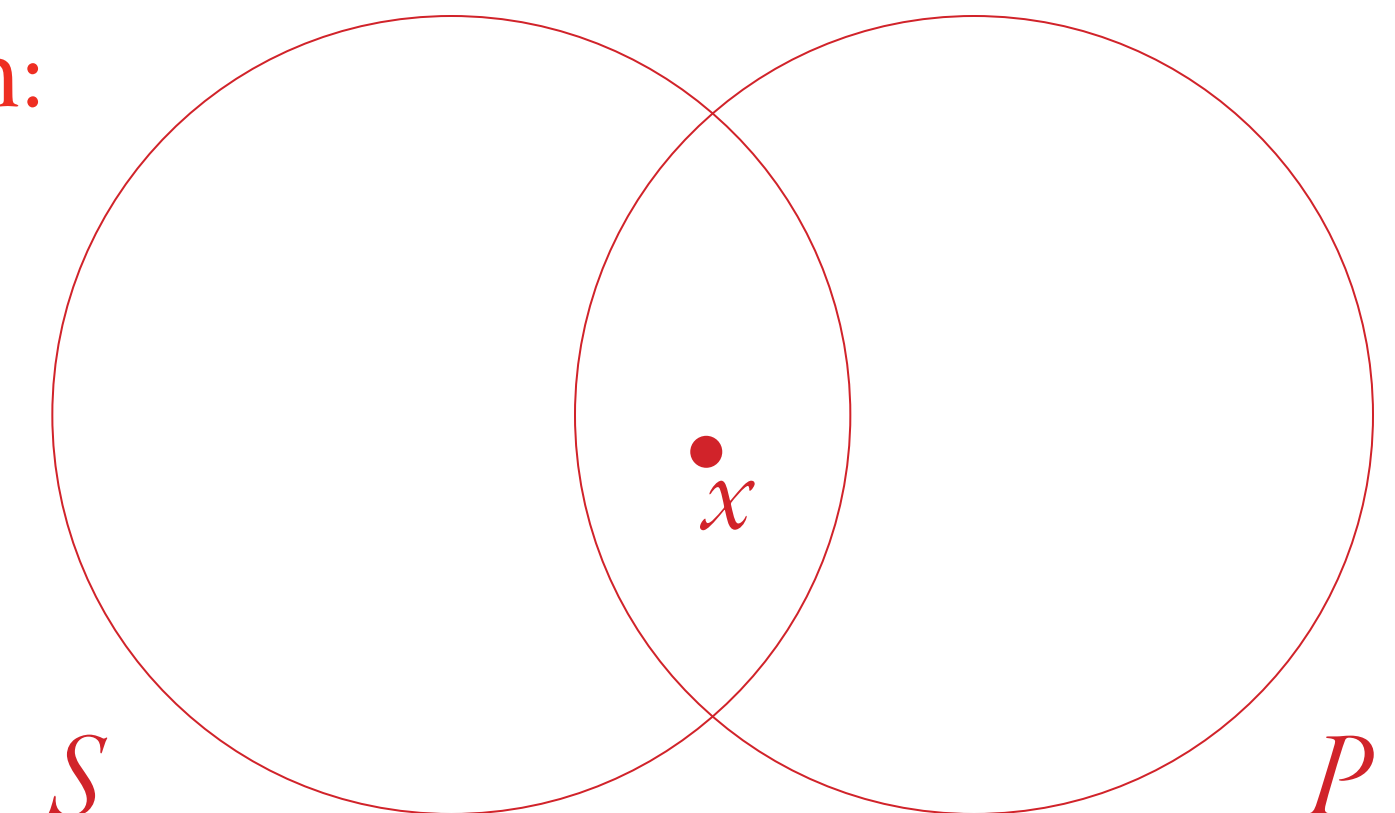
Next Class…

We will have an in-class review session for **unit exam #3.**