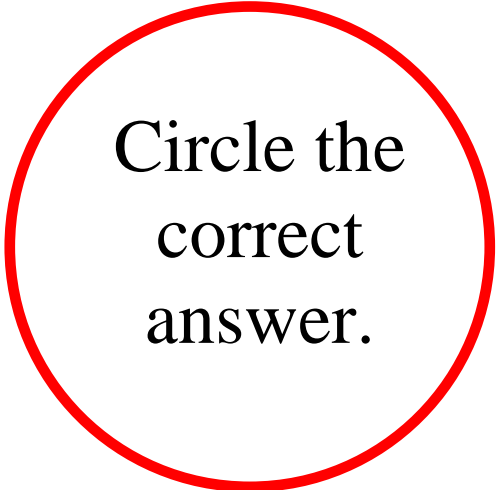# Logic Pretest

1. Some cave dwellers use fire.
   All who use fire have intelligence.
     Therefore:
   (a) All cave dwellers have intelligence.
   (b) All who have intelligence use fire.
   (c) Some cave dwellers have intelligence.
   (d) None of these validly follows.

Circle the correct answer.

1. Some cave dwellers use fire.
   All who use fire have intelligence.
   ∴ (c) <u>Some</u> cave dwellers have intelligence.

Why doesn't this follow?

(a) <u>All</u> cave dwellers have intelligence.

2.   If you overslept, you'll be late.
     You aren't late.
     _____
     ∴ (b) You didn't oversleep.

3. No one held for murder is given bail.
    Smith isn't held for murder.
    _____
    ∴ (d) None of these validly follows.
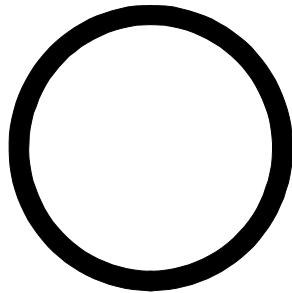

    Why doesn't this follow?

    (a) Smith is given bail.

3. No one held for murder is given bail.
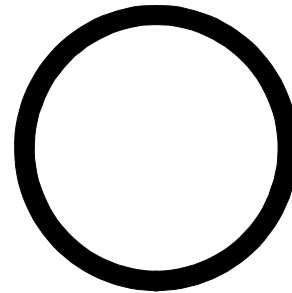Smith isn't held for murder.
∴ ???

held for murder   is given bail

If Smith is outside the "held for murder" circle, he may or may not be inside the "is given bail" circle.

4. No court that suppresses evidence is impartial.
    Some courts subject to political pressure suppress evidence.

    ∴ (a) Some courts subject to political pressure aren't impartial.

5. If you overslept, you'll be late.
    You didn't oversleep.
    ─────────────────────────────
    ∴ (d) None of these validly follows.

    Why doesn't this follow?

    (b) You aren't late.

Logic is the analysis and appraisal of arguments.

An *argument* is a set of statements consisting of premises and a conclusion.

> No pure water is burnable.
> Some CR water is burnable.
> ∴ Some CR water is not pure water.

> No pure water is burnable.
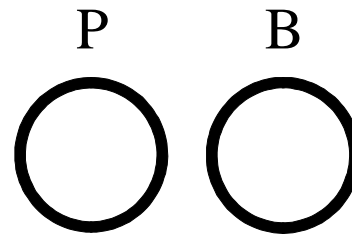> Some CR water is not burnable.
> ∴ Some CR water is pure water.

No pure water is burnable.   no P is B
Some CR water is burnable.   some C is B
∴ Some CR water is not pure water.   ∴ some C is not P

↑   valid   ↑   P   B

⬇   invalid   ⬇   ◯   ◯

No pure water is burnable.   no P is B
Some CR water is not burnable.   some C is not B
∴ Some CR water is pure water.   ∴ some C is P

All logicians are millionaires.   all L is M
Gensler is a logician.   g is L
∴ Gensler is a millionaire.   ∴ g is M

This argument is VALID but not SOUND.

VALID = the conclusion follows from the premises.

SOUND = VALID + all the premises are true.