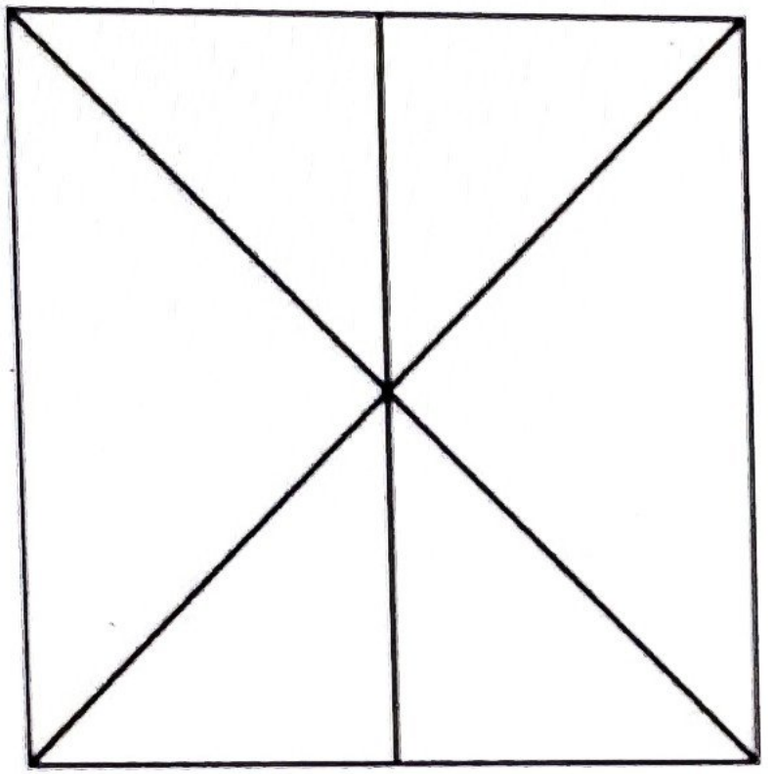
A Leftarian notices that:

- half of all Rightarians are shy
- half of all Leftarians are stubborn
- half of all Leftarians are shy

He also knows that it is impossible to be shy and stubborn at the same time. Therefore he deduces that only one of the following statements *cannot* be true. Which one?

- A. All Rightarians are Leftarians.
- B. Leftarians and Rightarians are the same group of people.
- C. All Leftarians are Rightarians and no Rightarian is stubborn.
- D. Half of all Rightarians are stubborn.
- E. There are no Rightarians who are also Leftarians.

How many triangles can be found in the following figure?



- A. 10
- B. 8
- C. 16
- D. 12
- E. 6

The members of parliament (MPs) of Happyland are 120. A third of them has been prosecuted and found guilty of corruption, whereas three quarters of them are serving their second-term as MPs. Therefore we can infer that:

- A. a quarter of MPs are serving their first term and have been found guilty of corruption
- B. none of the MPs who are serving their first term has been found guilty of corruption
- C. a third of the MPs who are serving their first term has been found guilty of corruption
- D. there is at least one MP who has been found guilty and is serving his/her second term
- E. if we pick three MPs randomly, at least one of them will have been found guilty of corruption

We know that:

- those who listen to rock music or blues do not sing out of tune
- Anne does not sing out of tune
- those who listen to blues do not win the lottery

Which of the following conclusions *cannot* be inferred from these premises?

- A. It is impossible that Anne listens to blues.
- B. Anyone who sings out of tune does not listen to rock.
- C. It is possible that Anne does not win the lottery.
- D. It cannot be ruled out that Anne listens to rock.
- E. Those who win the lottery do not listen to blues.

A chemist is studying an orange-colored solution and realizes that it contains sodium or potassium (or both). She also knows that, if the solution does *not* contain sodium, it must contain iron; and that, if it contains potassium, it contains iodine as well.

Which of the following scenarios is possible?

- A. The solution contains sodium and potassium, but does not contain iodine.
- B. The solution contains only potassium and iron.
- C. The solution contains only iron and iodine.
- D. The solution contains only sodium.
- E. The solution does not contain sodium nor iodine.

Find the missing pair of numbers in the following sequence:

3, 43 ; 5, 27 ; 9, 19 ; ..., ... ; 33, 13

- A. 24, 74
- B. 15, 15
- C. 17, 15
- D. 23, 13
- E. 19, 11

Five people have different amounts of money. Osborne is richer than Raymond, who in turn is poorer than Sylvia, who in turn is richer than Pamela. Quentin is less wealthy than Pamela, but more than Osborne. Who is the third richest person?

- A. Osborne.
- B. Sylvia.
- C. Raymond.
- D. Quentin.
- E. Pamela.

A survey shows that in Italy there are more married people than single, and more males than females. Which of the following statements is certainly *false*?

- A. In Italy the number of single people is more than the double of the number of married couples.
- B. In Italy there are more married couples than single women.
- C. In Italy there are more married couples than single men.
- D. In Italy there are more husbands than single women.
- E. In Italy there are more single men than husbands.

Two friends are playing a game: at every turn, each player can take any number of stones except 4 or 8.The player who takes the last available stone wins. Initially, there are 8 stones; how many of them must the first player take, in order to be sure to win? Assume that both players do not make mistakes in their respective moves.

- A. The first player always loses, regardless of how many stones he takes.
- B. 3
- C. The first player always wins, regardless of how many stones he takes.
- D. 1
- E. 2

Among the following, choose the logical negation of the statement:

Ulrich has at least one blonde son

- A. At least one of Ulrich's sons is not blond
- B. All Ulrich's sons are red-haired
- C. Ulrich has no sons or has only non-blonde sons
- D. Not all Ulrich's sons are blonde
- E. All Ulrich's sons are dark-haired