19

LOGIC

2007B

5. **Answer (D):** Let A, B, C, and D represent the following statements about a person in the land.

A : Is an Arog. B : Is a Braf. C : Is a Crup. D : Is a Dramp.

Then the statement in the first sentence of the problem can be expressed as:

$$A \implies B, \quad C \implies B, \quad D \implies A \quad \text{and} \quad C \implies D.$$

The most we can conclude is that

$$C \implies D \implies A \implies B.$$

So the only statement listed that we are certain is true is that Crups are both Arogs and Brafs.

2015B

5. **Answer (B):** Marta finished 6th, so Jack finished 5th. Therefore Todd finished 3rd and Rand finished 2nd. Because Hikmet was 6 places behind Rand, it was Hikmet who finished 8th. (David finished 10th.)

2018A

5. **Answer (D):** Because the statements of Alice, Bob, and Charlie are all incorrect, the actual distance d satisfies $d < 6$, $d > 5$, and $d > 4$. Hence the actual distance lies in the interval $(5, 6)$.