Below are some statistical statements. Can you decide whether each is always, sometimes, or never true?

If they are sometimes true, give examples or conditions under which they are true and under which they are false.

If they are always true or never true, give convincing reasons why that is the case.

Be sure to be clear about your statistical assumptions in each case.

1. It is just as likely to rain tomorrow as it is to rain the day after tomorrow.

2. In a school, there will be two people who share a birthday.

3. In a school, it will be someone's birthday every day.

4. A randomly selected person from London will live to a greater age than a randomly selected person from Calcutta.

5. If everyone in the class rolled two dice until someone threw a double six, there would be one winner.

6. If I roll a die 100 times, I will get about the same number of 1s as 6s.

7. If I flip a fair coin 20 times, I will get 10 heads.

8. The mean, median and mode of a set of numbers can't all be the same.

9. The mean cannot be less than both the median and the mode.

10. Half of the students taking a test score less than the average mark.

11. Nobody scores higher than the average mark in a test.

12. In a game where you can only score an even number of points (0, 2, 10 or 50), the average score over a series of games must be an even number.

Could you adapt any of the statements that are sometimes true to make them always or never true?