Sampling Methods - Answers

Identify the sampling method: *simple random, cluster, stratified, convenience, voluntary response, or systematic.*

1. Every fifth person boarding a plane is searched thoroughly. systematic
2. At a local community College, five math classes are randomly selected out of 20 and all of the students from each class are interviewed.   cluster
3. A researcher randomly selects and interviews fifty male and fifty female teachers. stratified
4. A researcher for an airline interviews all of the passengers on five randomly selected flights. cluster
5. Based on 12,500 responses from 42,000 surveys sent to its alumni, a major university estimated that the annual salary of its alumni was 92,500.   voluntary response
6. A community college student interviews the first 100 students to enter the building to determine the percentage of students that own a car.   convenience
7. A market researcher randomly selects 200 drivers under 35 years of age and 100 drivers over 35 years of age.   stratified
8. All of the teachers from 85 randomly selected nation's middle schools were interviewed. cluster
9. To avoid working late, the quality control manager inspects the last 10 items produced that day. convenience
10. The names of 70 contestants are written on 70 cards, The cards are placed in a bag, and three names are picked from the bag.   simple random
11. 32 sophomores, 35 juniors and 49 seniors are randomly selected from 230 sophomores, 280 juniors, 577 seniors at a certain high school.   stratified
12. To ensure customer satisfaction, every 35th phone call received by customer service will be monitored.   systematic
13. Calling randomly generated telephone numbers, a study asked 855 U.S. adults which medical conditions could be prevented by their diet. simple random
14) A pregnancy study in Chicago, randomly selected 25 communities from the metropolitan area, then interviewed all pregnant women in these communities.   cluster

Are these samples representative? Explain your thinking.

15. To determine the percentage of teenage girls with long hair, *Teen* magazine published a mail-in questionnaire. Of the 500 respondents, 85% had hair shoulder length or longer (*USA Today*, July 1, 1985). **No; only teenagers who read *Teen* could respond. This does not represent all teens**

16. A college psychology professor needs subjects for a research project to determine which colors average American adults find restful. From the list of all 743 students taking introductory psychology at her school, she selects 25 students using a random number table. **No; the sample only includes students and would not be representative of "average American adults"**

17. To evaluate the reliability of cars owned by its subscribers, *Consumer Reports* magazine publishes a yearly list of automobiles and their frequency-of-repair records. The magazine collects the information by mailing a questionnaire to subscribers and tabulating the results from those who return it. **No; only people who read *Consumer Reports* and choose to respond would be represented. Voluntary response samples tend to over-represent the people who have strong opinions**

18. Oranges from an orchard need to be samples to see if they are sweet enough for juice. The orchard has 25,000 orange trees. Each tree has at least 500 oranges. Claire decides to randomly choose 800 trees and test one orange from each tree. **yes**