There are 30 problems in Chapter 12 in 4 pages and 45 problems in chapter 13 in another set of 4 pages.
In order to make up a homework based on chapters 12 and 13 the instructor thinks of the following different schemes.

1. **Method 1:** Since there are altogether 75 problems, label the problems from 1 through 75 and draw 10 numbers at random and choose the corresponding problems.

2. **Method 2:** Pick 4 problems from the 30 in chapter 12 and pick 6 problems from the 45 in chapter 13.

3. **Method 3:** Pick two pages at random and assign all the problems in those pages.

4. **Method 4:** Pick two pages at random and pick 5 problems at random from each of those two pages.

5. **Method 5:** Pick a problem at random and then pick every fifth problem from it.

**1 pt** Method 1 is

1. A Multistage sample  
   B Systematic sample  
   C Stratified sample  
   D Cluster sample  
   E Simple random sample

**1 pt** Method 2 is

2. A Multistage sample  
   B Cluster sample  
   C Systematic sample  
   D Stratified sample  
   E Simple random sample

**1 pt** Method 3 is

3. A Stratified sample  
   B Multistage sample  
   C Systematic sample  
   D Cluster sample  
   E Simple random sample
1 pt Method 4 is

4. A. Multistage sample
   B. Cluster sample
   C. Simple random sample
   D. Systematic sample
   E. Stratified sample

1 pt Method 5 is

5. A. Simple random sample
   B. Stratified sample
   C. Systematic sample
   D. Cluster sample
   E. Multistage sample

1 pt A Statistics class consists of 32 students, who are labeled as 01, 02, . . . 31, 32. We wish to select a sample of 4 students (no student will be selected more than once) and evaluate their performance on a test. We shall use the following random digits to draw the sample:

   31494 73194 03015 02200 60227 43367 27581

If we start at the beginning of the above random digits list, to choose a simple random sample of four students, then the selected students are:

6. A. 31, 03, 01, 22
   B. 31, 49, 47, 31
   C. 31, 31, 03, 01
   D. 3, 1, 4, 9

You are correct. Your receipt no. is 152-474

A Statistics class consists of 30 students, who are labeled as 01, 02, . . . 29, 30. We wish to select a sample of 4 students and evaluate their performance on a test. We shall use the following random digits to draw the sample:

   37542 04805 24805 24037 20636 10302
If we start at the beginning of the above random digits list, to choose a simple random sample of four students *without replacement*, then the selected students are:

7. A ○ 20, 05, 24, 03  
   B ○ 20, 05, 24, 20  
   C ○ 3, 7, 5, 4  
   D ○ 37, 54, 20, 48

If we start at the beginning of the above random digits list, to choose a simple random sample of four students *with replacement*, then the selected students are:

8. A ○ 3, 7, 5, 4  
   B ○ 37, 54, 20, 48  
   C ○ 20, 05, 24, 03  
   D ○ 20, 05, 24, 20

In order to assess the opinion of students at the Syracuse University, a reporter for the student newspaper interviews the first 6 students he meets who are willing to express their opinion.

What is the population?

9. A ○ the 6 students interviewed.  
   B ○ all students at Syracuse University.  
   C ○ all student newspapers of American colleges and universities.  
   D ○ all reporters for the newspaper.

What is the sample?

10. A ○ all student newspapers of American colleges and universities.  
    B ○ all students at Syracuse University.  
    C ○ all reporters for the newspaper.  
    D ○ the 6 students interviewed.
What is the method of sampling used?

11. A ○ a census.
    B ○ simple random sampling.
    C ○ voluntary response.
    D ○ stratified sampling.

When data are collected in a statistical study for only a portion or subset of all elements of interest we are using a

12. A ○ parameter
    B ○ statistic
    C ○ population
    D ○ sample

You are correct. Your receipt no. is 152-8610

You asked ten of your classmates about their weight. On the basis of this information, you stated that the average weight of all students in your university or college is 142.6 pounds. This is an example of:

13. A ○ population
    B ○ sample
    C ○ parameter
    D ○ statistic

You are correct. Your receipt no. is 152-891

A professor needs to select a volunteer for a project. Which of the following would NOT be an example of a simple random sample?

14. A ○ He chooses a number between 00 and 99. The student whose phone number has the last two digits closest to the one the professor has chosen is selected.
    B ○ He has each student select a number between 0 and 99 and write it down. He then selects the student whose number is closest to the last two digits of his social security number.
    C ○ He chooses that individual whose name is first in alphabetical order.
    D ○ He puts all student names in a bowl, mixes them up, and selects one.

You are correct. Your receipt no. is 152-5292

A company has developed a new battery, but the average lifetime is unknown. In order to estimate this average, a sample of 100 batteries is tested and the average lifetime of this sample is found to be 250 hours.
Here the population of interest is:

15. A ○ lifetime of newly developed batteries  
   B ○ all newly developed batteries by the company  
   C ○ average  
   D ○ 100 batteries, which were tested

Here the sample is:

16. A ○ 100 batteries, which were tested  
   B ○ not in the list  
   C ○ lifetime of newly developed batteries  
   D ○ average of 250 hours

Here the variable of interest is:

17. A ○ 100 batteries, which were tested  
   B ○ average  
   C ○ not in the list  
   D ○ lifetime of newly developed batteries

What is the parameter of interest in this case?

18. A ○ no parameter is involved in this problem  
   B ○ average lifetime of 100 batteries tested  
   C ○ average of all newly developed batteries by the company  
   D ○ 100 batteries sampled and tested

The 250 hours is the value of:

19. A ○ parameter  
   B ○ sample  
   C ○ statistic  
   D ○ variable
A recent Wall Street Journal poll asked a group of American voters to rate economic conditions in the United States. 22% of the respondents rated economic conditions as “favorable.” Identify the population, sample, sample statistic, and population parameter in this survey.

A Parameter
B Population
C Sample
D Sample statistic
E None of the above

The percentage of all voters who would rate economic conditions as favorable.

All eligible voters in the U.S.

22% of the sample rated economic conditions as favorable.

Voters selected to participate in the survey.

You are correct. Your receipt no. is 152-6637