

1. A
2. C
3. B
4. D
5. Stratified, Cluster, SRS, Systematic
6. Although the polling suggested that he would lose, the sampling technique was greatly flawed and FDR won by a landslide.
7. By stirring the pot, you ensure that your sample has a consistent mix of all the ingredients and you randomize the sample. You always want your sample to be like the entire population.

HW 9-1 key

Packet pg. 3

A **sampling design** describes how to select the sample from the population. There are many sampling designs, including the following:

- **Simple random sampling** is a sampling design that chooses a sample of size n using a method in which all possible samples of size n are equally likely to be selected.
- **Convenience sampling** is a sampling design in which the pollster selects a sample that is easy to obtain, such as friends, family, co-workers, and so forth.
- **Voluntary sampling** or **self-selecting sampling** is a sampling design in which the sample consists of people who respond to a request for participation in the survey.
- **Multistage sampling** is a sampling design that begins by dividing the population into clusters. In stage one, the pollster chooses a (random) sample of clusters. In subsequent stages, random samples are chosen from each of the selected clusters.
- **Stratified sampling** is used to ensure that specific non-overlapping groups of the population are represented in the sample. The non-overlapping groups are called **strata**. In a **stratified random sample**, the sample is obtained by taking random samples from each of the strata.

Name _____

Statistics Chapter 9: Using Random Numbers

Here is list of employees at a small company.

	Name	Gender	Department	Building
01	Crystal	F	Custodial	A
02	Alex	M	Management	A
03	Eric	M	Custodial	A
04	Wesley	M	Custodial	A
05	Franklin	M	Production	A
06	Claire	F	Production	A
07	Marian	F	Management	A
08	Marcia	F	Production	A
09	Dwight	M	Production	A
10	Wayne	M	Production	A
11	Stephanie	F	Production	A
12	Neal	M	Production	A
13	Gretchen	F	Custodial	A
14	Tim	M	Production	A
15	Jerome	M	Production	A
16	Shelley	F	Production	A
17	Priscilla	F	Management	A
18	Elsie	F	Production	A
19	Beth	F	Production	A
20	Erica	F	Production	A
21	Douglas	M	Custodial	A
22	Donald	M	Production	A
23	Katherine	F	Custodial	A
24	Paul	M	Production	A
25	Patricia	F	Custodial	A

	Name	Gender	Department	Building
26	Lois	F	Management	B
27	Louis	M	Production	B
28	Christina	F	Production	B
29	Darlene	F	Production	B
30	Harvey	M	Custodial	B
31	Arlene	F	Production	B
32	Kyle	M	Management	B
33	Calvin	M	Production	B
34	Gary	M	Production	B
35	Samantha	F	Custodial	B
36	Sara	F	Production	B
37	Stacy	F	Management	B
38	Gladys	F	Management	B
39	Mike	M	Custodial	B
40	Lynne	F	Production	B
41	Faye	F	Production	B
42	Diana	F	Production	B
43	Leon	M	Management	B
44	Ethel	F	Custodial	B
45	Steve	M	Production	B
46	Alison	F	Custodial	B
47	Sherri	F	Production	B
48	Patsy	F	Production	B
49	Kelly	F	Management	B
50	Stacy	F	Production	B

1. Employees need to be chosen for an employee satisfaction survey. Use the table of random numbers on the next page to choose only the first 5 people for each sample using the following selection methods. Describe exactly where you start and how you used the digits in the table.

Method	Description of your process	First 5 chosen
Simple Random Sample	Numbered each employee 1-50. Starting at row #5, choose 2 digits at a time, ignoring #'s over 50 and repeats and so.	Diana, Steve, Wesley, Claire, Priscilla
Systematic Sample	We picked every 10th person starting with #50 going backwards	Stacy, Lynne, Harvey, Erica, Wayne
Random Sample stratified by gender	Numbered people. Starting at line 14. 2 digits at a time. Keep 5 per gender	(5 per gender) F: Beth, Sara, Stephanie, Crystal, Marcia M: Paul, Wesley, Leon, Harvey, Calvin
Random sample stratified by department	Numbered people. Started on line 11. 2 digits at a time. Keep 5 per dept	(5 per department) C: Patricia, Wesley, Mike, Douglas, Samantha M: Priscilla, Kelly, Lois, Gladys P: Christina, Wayne, Elsie, Dwight, Diana

Random number table

87657	98585	15233	34215	27988	82395	35014	24696	30741	52171
47527	07625	73092	16364	07551	20487	33880	69266	83101	48443
37268	37427	15052	31985	71350	13140	84557	82351	26821	18413
97747	71703	70152	47357	22414	19635	13618	24477	08283	84928
83614	24504	79580	64517	23500	46409	71222	98317	11521	10773
55418	94316	71965	24572	33553	34632	83107	03613	04011	57462
26975	41624	24395	29035	05975	11853	58848	93652	7524	56965
64956	50257	91234	43230	33412	25854	11062	62247	88843	23130
79943	52945	26288	09789	10346	35130	17423	06058	55949	24923
07363	81273	66407	36993	61784	83647	96821	69451	35165	41013
→ 28561	78680	10972	54971	95558	51804	79268	58359	56560	93883
70004	24285	29095	71005	56354	90627	19994	79452	53690	99986
34892	16176	61725	35102	20373	06126	03444	29675	65842	31564
77841	93680	82827	75311	58872	40470	57195	57391	43719	26901
52306	88578	33218	00825	76857	14057	84169	02787	03372	86372
67249	65853	66572	44220	12764	63920	62597	06984	68031	21796
83352	73549	60552	84104	37272	63733	30444	17347	65252	92840
96184	15582	87496	36274	89263	05620	01759	43470	19936	55765
20595	17497	14622	84929	86058	50104	63954	32626	05077	39381
61265	75896	32488	98217	49479	73352	63478	82169	19203	72878