1) B
2) C
3) B
4) C
5) A
6) C
7) B
8) A
9) B
10) The wording of the question is biased, as it tends to encourage negative responses.
11) Sample statistic because the number 1103 is based on a subset of the population.
12) A population is the collection of all elements in a population. A sample is a subset of the elements in the population.
13) Sample. It is usually impractical to obtain all the population data.
14) population: collection of American households; sample: collection of 1353 American households surveyed
15) population: collection of American households; sample: collection of 1564 American households surveyed
16) Sample statistic because the number $125,000 is based on a subset of the population.
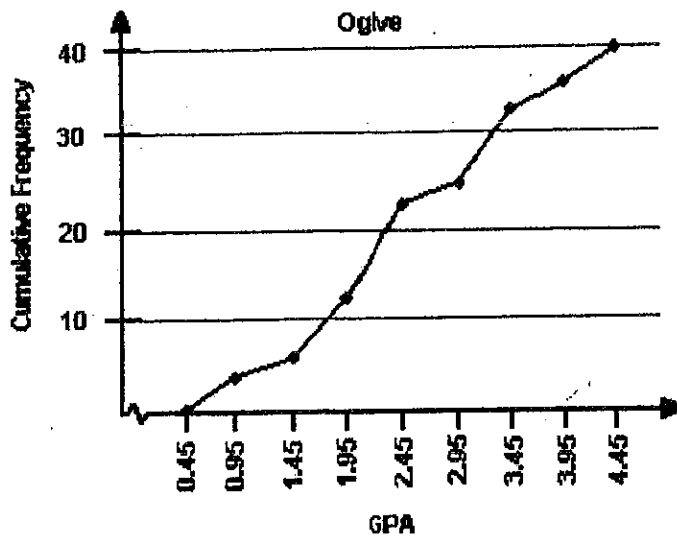17) population: elementary school children; sample: collection of 2625 elementary school children surveyed.

18)

Height (in inches)

19)

Ogive

Cumulative Frequency

Height (in inches)
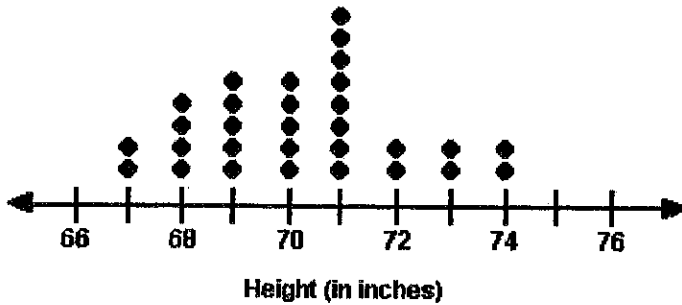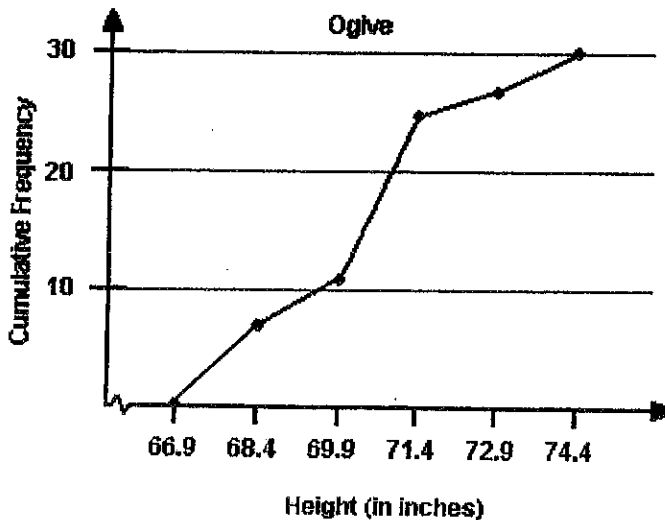
20) range = 4.4, s = 1.8, s² = 3.324

$$\text{range} = 4.4, \ s = 1.8, \ s^2 = 3.324$$

21) Battery Type B has less variation. As a result, it is less likely to fail before its mean life is up.

22)

Ogive

23)

```
 9| 3 6 6 7 8
10| 0 1 3 5 7
11| 3 4 5 9
12| 1 8 9
13| 0 0
14|
15| 7            Key: 9| 3 = 9.3
```

24) $11!/(2!2!) = 9,979,200$

25) $10(26^3)(10^3) = 175,760,000$

26) $\dfrac{1172}{2500}$

27) (MR, TR, WR, HR, FR, SAR, SUR, MN, TN, WN, HN, FN, SAN, SUN)

28) $P(4\text{-Aces}) = \left(\dfrac{4}{52}\right)\left(\dfrac{3}{51}\right)\left(\dfrac{2}{50}\right)\left(\dfrac{1}{49}\right) = 0.00000369$

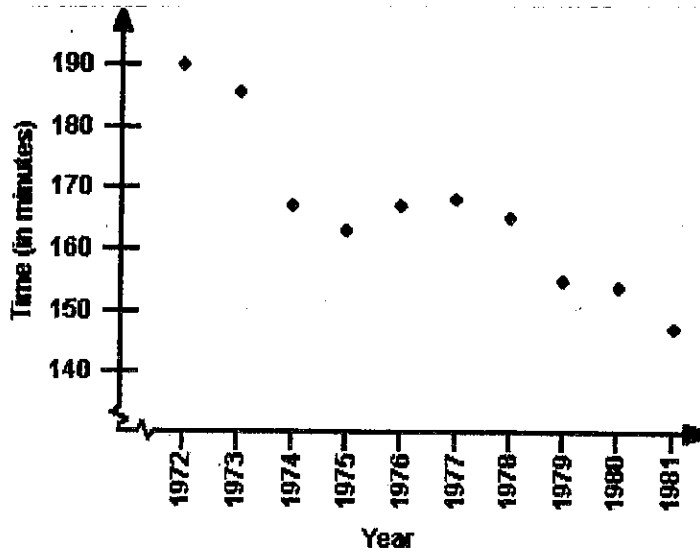29) Not a binomial experiment. There are more than two outcomes.

30)

x	P(x)
0	0.21875
1	0.28125
2	0.21875
3	0.125
4	0.03125
5	0.03125
6	0.0625
7	0.03125

31) 0.0005

32) Geometric mean = 10; on average, 10 items will be examined before finding one that is defective.
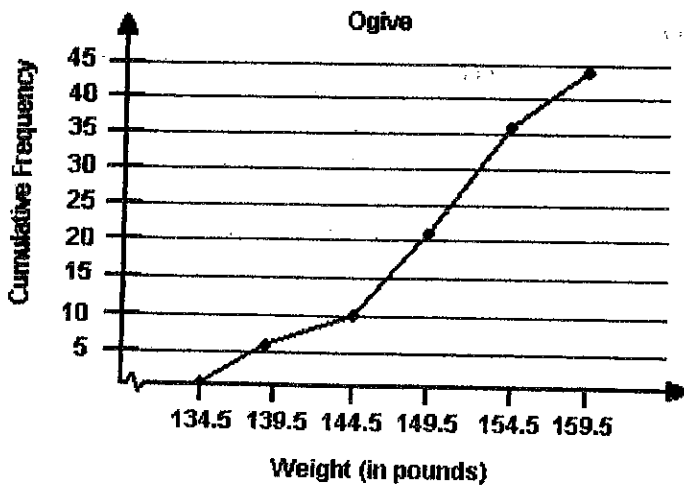
33) cannot use normal distribution, $nq = (16)(0.1) = 1.6 < 5$

11

34) About 19 men
35) $P(x \geq 69.5) = 0.0262$
36) 16, 34, 69, 38, 13
37) 163, 169, 15, 92, 97
38)

39)

Weight (in pounds)	Frequency	Cumulative Frequency
135 – 139	6	6
140 – 144	4	10
145 – 149	11	21
150 – 154	15	36
155 – 159	8	44

40) 0.837
41) 0.512
42) n = 5; p = 0.26; q = 0.74; x = 0, 1, 2, 3, 4, 5
43) 0.9525

44) Population parameter because the $33,000 is based on all the workers at GM.

45) mean: 97; median 103

46) $9(26^3)(10^3) - 9,000 = 158,175,000$

47) $n = 8; p = 0.57; q = 0.43; x = 0, 1, 2, 3, 4, 5, 6, 7, 8$

48) can use normal distribution

49) A report sponsored by the citrus industry is much more likely to reach conclusions favorable to the industry.

50) B

51) A

52) D

53) C

54) D

55) B

56) A

57) B

58) A

59) B

60) B

61) A ?

62) B

63) D

64) A

65) B

66) D

67) B

68) C

69) D

70) A