**1.2** a) Quantitative b) Quantitative c) Qualitative d) Quantitative

**1.4** a) Discrete b) Continuous c) Discrete d) Discrete e) Continuous

**1.18** a) Roughly Bell-shaped curve , with the majority of the data in the centre.

b) Stem-and-leaf of 1.18   N   = 50

Leaf Unit = 0.10

```
 2     1   68
 4     2   12
12     2   55578899
15     3   114
(13)   3   5566677778999
22     4   00012234
14     4   5678999
 7     5   11
 5     5   667
 2     6   12
```

The smallest observation=1.6

c) The eighth and ninth observations are both 4.9

**1.28** a) Stem-and-leaf of 1.28   N   = 50

Leaf Unit = 1.0
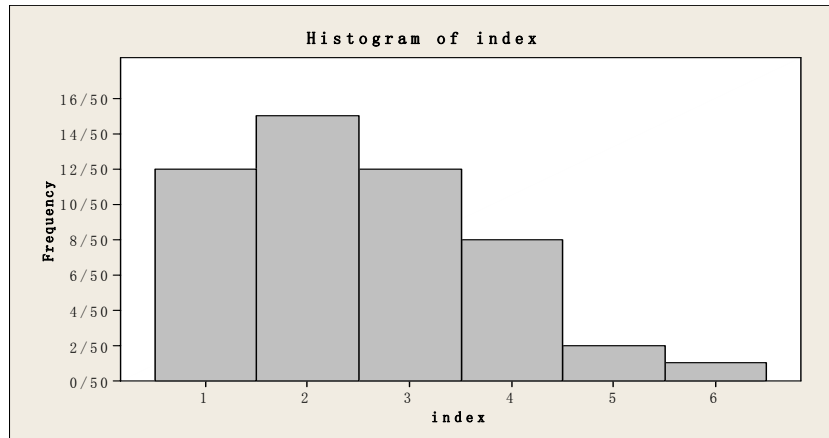
```
  5   3   00011
 10   3   22233
 15   3   44555
 22   3   6666677
 (5)  3   88999
 23   4   00001111
 15   4   2233
 11   4   55
  9   4   6667
  5   4   88
  3   5   00
  1   5
  1   5   5
```

b)

| index | range | freq |
|-------|-------|------|
| 1 | 30-35 | 12 |
| 2 | 35-40 | 15 |
| 3 | 40-45 | 12 |
| 4 | 45-50 | 8 |
| 5 | 50-55 | 2 |
| 6 | 55-60 | 1 |

Histogram of index

c) There are not any significant differences. Both graphs are left-skewed.

d) 27/50= 54%

e) 47/50=94%

**1.63** a)   Stem-and-leaf of 1.63   N   = 51

Leaf Unit = 1.0

```
 1      0   7
 2      0   8
 3      1   0
 4      1   3
 6      1   45
12      1   666777
20      1   88888999
(12)    2   000000011111
19      2   22222333
11      2   4444555
 4      2   677
 1      2   9
```
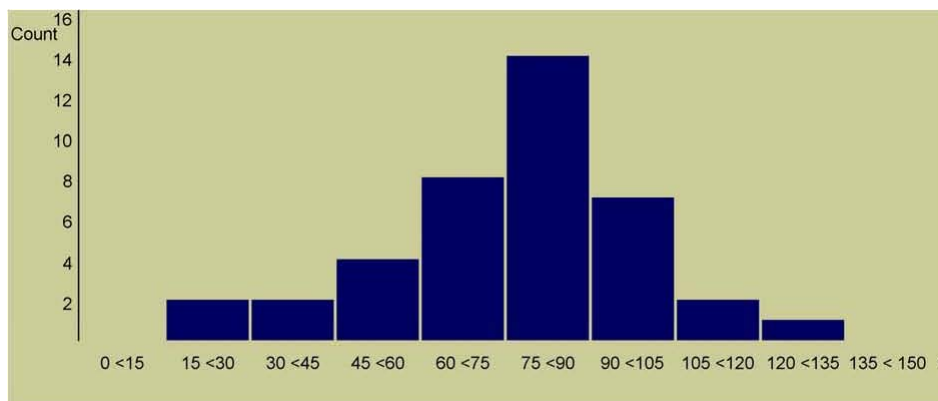
b) The shape of this distribution is skewed to the left, there is one peak between 20 and 21 cents.

c) Yes, there are several states with both unusually high and low gasoline taxes. Georgia has an unusually low tax=7.5 cents,

as well as Alaska=8.0 cents. While Rhode Island has a very high tax=29 cents.

**1.72**



The shape of the graph is a curve skewed to the left.