1. The frequency table:

<table>
<thead>
<tr>
<th>x</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>freq</td>
<td>9</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>31</td>
</tr>
</tbody>
</table>

2. Ans (b) - Mode is the observation with highest frequency. From the frequency table above, “0” has the highest frequency of “9” and hence is the node of the data.

3. Ans (b) - Since there are \( n = 31 \) observations, the median is located at the \( \frac{31+1}{2} = 16 \)th observation in ascending order. The cumulated frequencies of the table in Q1 are 9,17,21,25,27,28,29,30,31. Hence the median lies in the 2nd class (16 < 17) and so takes the value of 1.

4. Ans (d) - The mean is \( \frac{1}{31} \sum_{i=1}^{31} x_i = \frac{1(8)+2(4)+3(4)+4(2)+5+6+7+8}{31} = 2. \)

5. \( n=24, \) Mean=18.79167, sd=5.763296.

6. 0.1, 0.2, 0.7, 0.7, 0.9, 1.1, 1.6, 4.0, 6.5, 9.2, 11.9, 29.1.

7. R exercise
   (i) Try with your tutor.
   (ii) try with your tutor.
   (iii) > x=c(0.7,1.1,0.7,0.9,6.5,1.6,4.0,29.1,0.2,0.1,9.2,11.9)

   [(iv)]
   > mean(x)
   5.5

   [(v)]
   > sort(x)
   0.1 0.2 0.7 0.7 0.9 1.1 1.6 4.0 6.5 9.2 11.9 29.1

   [(vi)]
   > length(x)
   12
   > median(x)
   1.35
((vii))

```r
> fivenum(x)
```

<table>
<thead>
<tr>
<th>Min.</th>
<th>1st Qu.</th>
<th>Median</th>
<th>3rd Qu.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.100</td>
<td>0.700</td>
<td>1.350</td>
<td>7.850</td>
<td>29.100</td>
</tr>
</tbody>
</table>

((viii))

```r
> y=1:12
> plot(x,y)
> plot(y,x)
```

((ix)) Check

((x))

```r
> plot(x,y)
```

((xi))

```r
> plot(y,x)
```

(xii) Check