

# Statistics lesson 3 - Range and Interquartile Range

Magic Monk Tutorials

## 1 Find the range and interquartile range of the following.

### 1.1 1, 2, 4, 6, 10, 12, 16, 18, 22

First, note that the list is ordered. So our range is simply  $22 - 1 = 21$ .

The lower quartile is 1, 2, 4, 6. This means that our LQ is 3. The upper quartile is 12, 16, 18, 22. This makes our UQ equal to 17.

So our IQ range =  $UQ - LQ = 17 - 3 = 14$ .

### 1.2 0, 3, 5, 7, 9, 10, 13, 15, 17, 19, 21, 24

Our list is ordered, so the range is  $24 - 0 = 24$ .

The lower quartile is 0, 3, 5, 7, 9, 10. This has an LQ of 6. The upper quartile is 13, 15, 17, 19, 21, 24, with an UQ of 18.

IQ range =  $UQ - LQ = 18 - 6$ .

### 1.3 22, 28, 28, 28, 29, 4, 10, 22, 18, 14, 18, 6, 23, 30, 19, 11, 2, 14, 11, 25, 26

First we must sort our list. The resultant list is 2, 4, 6, 10, 11, 11, 14, 14, 18, 18, 19, 22, 22, 23, 25, 26, 28, 28, 28, 29, 30. This means the range is 28.

Since there are 21 numbers in total, our median will be at the 10th point and so our LQ will be at the midpoint of the 5th and 6th numbers. This means our  $LQ = (11 + 11) / 2 = 11$ .

Also, the UQ will be at the 16th and 17th position.  $UQ = (26 + 28) / 2 = 27$ .

IQ range =  $UQ - LQ = 27 - 11 = 16$