4 Question Challenge on...
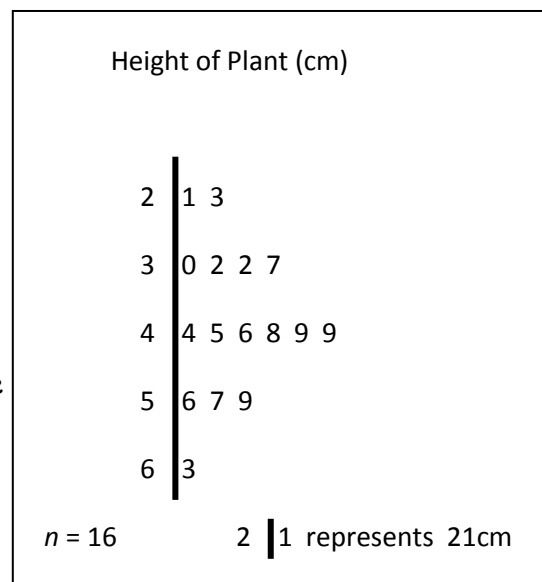
Stem-and-Leaf Diagrams

Q1   A sample of tomato plants are measured for height. Their heights are recorded to the nearest centimetre.

The stem-and-leaf diagram shows the results.

Height of Plant (cm)

(a)   How many plants were in the sample?

(b)   What height is the tallest plant?

(c)   Write out level 5 in full.

(d)   What fraction of the plants were more than 50cm tall?

```
2 | 1 3
3 | 0 2 2 7
4 | 4 5 6 8 9 9
5 | 6 7 9
6 | 3
```

n = 16   2 | 1 represents 21cm

Q2   Susan decided to visit various shops in her surrounding area in order to compare the price of an identical Tablet player.

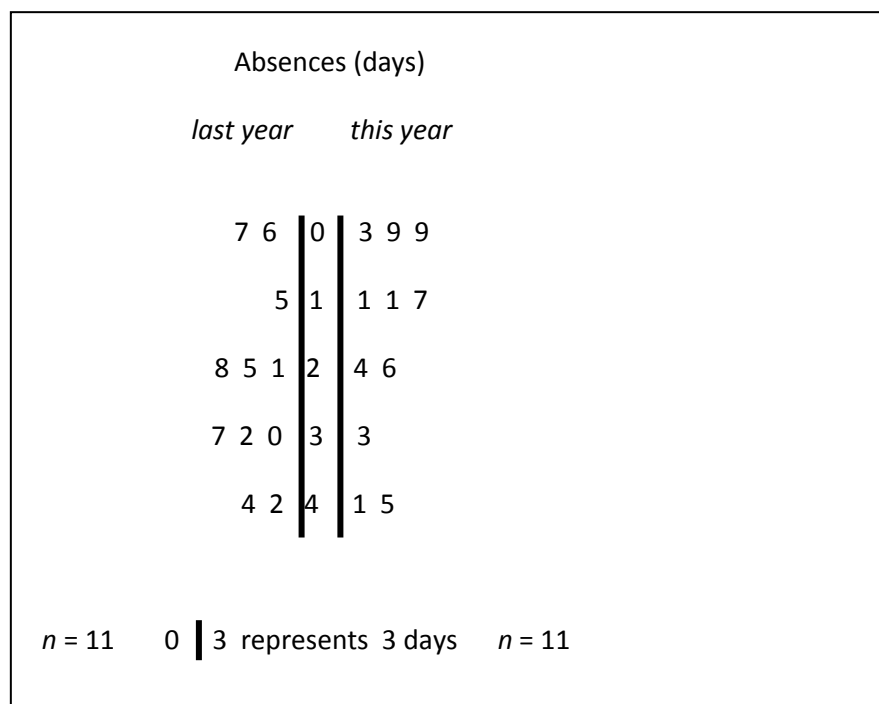Her results, shown below, are given to the nearest pound.

£68   £75   £73   £80   £75   £79   £81   £66   £71   £92   £83   £75   £78

Construct a stem-and-leaf diagram to represent this data.

Q3 A factory has a small workforce of eleven people. The owner decides to compare absence rates (in days) over the last two years.

The results are shown in the back-to-back stem-and-leaf diagram below.

Absences (days)

last year   *this year*

```
        7 6 | 0 | 3 9 9
          5 | 1 | 1 1 7
      8 5 1 | 2 | 4 6
      7 2 0 | 3 | 3
        4 2 | 4 | 1 5
```

$n = 11$ 0 | 3 represents 3 days $n = 11$

(a) What is the largest number of absences recorded?

(b) Compare the absences and comment

Q4 Two makes of matches are being compared, "Brighto" and "Sparky", they both cost the same per box.

14 boxes of each type are sampled to find the number of matches in a box. Here are the results.

Brighto
```
48  45  47  39  52  36  58
41  38  39  46  50  61  37
```

Sparky
```
38  42  49  39  62  56  52
40  58  49  29  51  64  57
```

(a) Construct a back-to-back stem-and-leaf diagram to represent this information.

(b) Which make of match, if any, is a better buy? Give a reason for your answer.