Worksheet 21.1A

1. (a) Range = 26 − 12 = 14
   (b) Range = 24 – 2 = 2
   (c) Range = 8.1 – 5.7 = 2.4
   (d) Range = 37 – (–17) = 54

2. (a) 5 + 8 + 2 + 3 + k = 20
      k = 2
      Range = 15 – 6 = 9

3. (a) Number of plants = 16 + 28 + 32 + 17 + 19
     = 112
     The lower boundary is 40.5 cm and the upper boundary is 60.5 cm.
     The highest class boundary is 140.5 cm and the lowest class boundary is 40.5 cm.
     ∴ Range = (140.5 – 40.5) cm = 100 cm

4. (a) Mode = 3
      (b) Range = 7 – 2 = 5
      (c) Total number of children = 11 + 13 + 12 + 7 + 10 + 7 = 60
         Number of children who have 5 or more pens = 7 + 10 + 7 = 24
         Percentage of children who have 5 or more pens = 24 × 100% = 40%

Worksheet 21.1B

1. (a) Median = \frac{15 + 16}{2} = 15.5, 
       11 + 12}{2} = 11.5
   (b) Arrange the data in ascending order: 1.8, 2.1, 2.7, 3.4, 3.8, 4.2, 5.9
       Median = 3.4, \quad Q_1 = 2.1

2. (a) Inter-quartile range = 21 – 16 = 5
   (b) Arrange the data in ascending order: –9, –9, 0, 0, 0, 19, 19
       ∴ Inter-quartile range = 19 – (–9) = 28

3. (a) Range = 60 – 0 = 60
       Q_1 = 25, \quad Q_3 = 42
       ∴ Inter-quartile range = 42 – 25 = 17
   (b) Range = 50 – 0 = 50
       Q_1 = 18, \quad Q_3 = 34
       ∴ Inter-quartile range = 34 – 18 = 16

4. (a) There are 41 students in the class.
   (b) The 21st datum is the median.
       ∴ Median = 58
       Mode = 75
   (c) Range = 96 – 12 = 84
(d) \[ Q_1 = \frac{37 + 43}{2} = 40 \]
\[ Q_3 = \frac{75 + 75}{2} = 75 \]
\[ \therefore \text{Inter-quartile range} = 75 - 40 = 35 \]