2 Measures of central tendency

Mean, median and mode

Guided questions

1 a Oban mean value

Step 1: 150 + 75 + 98 + 68 + 76 + 89 + 55 + 80 + 98 + 130 + 128 + 110 = 1157 mm

Step 2: 1157 ÷ 12 = 96 mm

Norwich mean value

Step 1 42 + 39 + 44 + 39 + 36 + 52 + 45 + 51 + 63 + 59 + 65 + 61 = 596 mm

Step 2: 596 ÷ 12 = 50 mm

b Oban median value

Step 1: 55, 68, 75, 76, 80, 89, 98, 98, 110, 128, 130, 150

Step 2: 89 + 98 = 187 mm

187 mm ÷ 2 = 94 mm

Norwich median value

Step 1: 36, 39, 39, 42, 44, 45, 51, 52, 59, 61, 63, 65

Step 2:

45 + 51 = 96 mm

96 mm ÷ 2 = 48 mm

c Oban modal value

Step 1: 55, 68, 75, 76, 80, 89, **98, 98,** 110, 128, 130, 150

Step 2: Modal value is 98 mm

Norwich modal value

Step 1: 36, **39, 39,** 42, 44, 45, 51, 52, 59, 61, 63, 65

Step 2: Modal value is 39 mm

Practice questions

3 a Step 1: 2209 + 1580 + 1453 + 715 + 672 + 580 + 560 + 542 + 536 + 523 = 9370

Step 2: 9370 ÷ 10 = 937 US $ billion

b Step 1: 2329 + 1950 + 1189 + 833 + 681 + 655 + 622 + 590 + 576 + 477 = 9902

Step 2: 9902 ÷ 10 = 990 US $ billion

4 **a** The values of exports are ranked in the table:

672 + 580 = 1352

1352 ÷ 2 = 676 US $ billion

b The values of imports are ranked in the table:

681 + 655 = 1336

1336 ÷ 2 = 668 US $ billion

5 The median values for imports and exports do not accurately reflect the range in the data set because there is a wide difference between the values for rank 1, 2 and 3 and the median values for both importers and exporters.

6 Site 1: <10 mm

Site 2: 10–19 mm

Site 3: >40 mm