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1.5 The large data set

1.

a) north → Leuchars

b) south → Camborne

c) west → Camborne

2.

a) daily total rainfall
↳ amount of precipitation including snow and hail that falls during 24 hour period; measured in mm

b) daily maximum gust
↳ highest instaneous windspeed recorded on a particular day; measured in knots

3.

a)

i) Sample size is too small

ii) She chose two locations that are almost the same latitude as eachother

b) Simple random sample of size 15 from large data set for 2015 Heathrow
↳ She can assign each date a number and then use a random number generator, computer, or calculator to generate the 15 dates in the sample

c) The sample should contain 15 different dates: data values cannot be reused. She should therefore reject the repeated value in the random number generation and generate a 16th random number.

4.

a) Leuchars is further north so the average mean daily temperature could be lower than for Camborne

b) The sample size is too small; Jerome should increase the sample size to give a more representative sample

5.

a) Systematic sample of size 20
↳ Generate a random starting number then count on every 9 dates since $\frac{184}{20} \approx 9$

b) The notation 'tr' means trace (less than 0.05mm).
Amara's method is not suitable as she has discarded valid data values.

c) Add any value given as 'tr' should be recorded as 0 for the purpose of carrying out any calculations

6.

a) The daily maximum gust must be greater than or equal to the daily mean windspeed

b) Beaufort scale - daily mean windspeed
Light - 0-10kn
Moderate - 11-16kn
fresh - 17-21kn

so the daily mean windspeed recorded is moderate

7.

Location	A	B	C
Average temperature (°C)	16.8	26.8	13.3
Average windspeed (kn)	8.3	4.0	7.4

a) location A → Hurn

b) location B → Beijing

c) location C → Perth