Year 7 · Statistics: Picturing Data

Name: _____ Date: _____

Hi! This sheet helps you choose the right graph for different kinds of data, read graphs carefully, and spot outliers. Take your time and label everything neatly.

Warm-up

1. Name the type of graph best used to show categorical data such as favourite school lunch (pie, sandwich, sushi, wrap).

2. A time-series graph is used to show data collected over what?

3. True or false: an outlier is a data point that is very much bigger or smaller than most of the others.

4. Which average is pulled towards an outlier: the mean or the median?

Practice

5. Aroha asked her class their favourite fruit. Apple = 8, Feijoa = 5, Mandarin = 6, Kiwifruit = 3. What type of graph should she use, and what should she put on each axis?

6. A shop in Avondale records its ice-cream sales each month over summer: Nov = 120, Dec = 180, Jan = 210, Feb = 160. Which graph shows the trend over time, and describe the trend.

7. A graph is supposed to show data. Write down two things a good data visualisation should let a viewer work out straight away.

8. Here are the number of pets owned by 9 students: 1, 2, 1, 0, 2, 1, 3, 2, 9. Which value is an outlier, and does it need to be an error?

9. A teacher wants to compare boys' and girls' choices of favourite sport in one graph. Which two graph types could she use, and what does each show best?

10. The times (in minutes) students took to run 2 km were: 11, 12, 11, 13, 12, 25. Find the mean and the median, then explain which better describes a typical time.

Challenge

11. A café tracks flat-white sales for two workers over a week: Mon–Fri. Wiremu: 20, 22, 21, 23, 24. Sina: 18, 40, 19, 20, 21. Sina's total looks high. Explain using an outlier, and say which graph would best let a manager compare the two workers day by day.

12. A class made 30 test scores. When they drew a dot plot, all dots were between 60 and 80 except one dot at 15. The mean was 68 and the median was 70. Explain why the mean is lower than the median, and describe how removing the 15 would change each.