AMSI | AUSTRALIAN MATHEMATICAL SCIENCES INSTITUTE

STATISTICS AND PROBABILITY – INTERPRETING AND REPRESENTING DATA (IRD)

IRD1 – ONE-TO-ONE DATA DISPLAYS

- ☐ I can display information using real objects, pictures or photos
- ☐ I can respond to questions about the information in one-to-one data displays
- ☐ I can make general observations about the data presented in one-to-one displays, e.g. red is the most popular colour
- ☐ I can compare data in simple displays, e.g. red is more popular than blue
- ☐ I can make reasonable conclusions from simple data displays, e.g. nobody ate hotdogs on Monday as the canteen was closed

IRD2 – COLLECTING AND DISPLAYING DATA

- ☐ I can choose a data collection method that suits the context, e.g. creates a tally to count the different car colours in the parking lot
- ☐ I can create and interpret data displays that include labels and symbols

IRD3 – INTERPRETING DATA SCALES

- ☐ I can interpret data displays that show one-to-many, e.g. one car represents ten
- ☐ I can explain why some data displays may be misleading, e.g. whether a scale should start at zero
- ☐ I can interpret data displayed using a multi-unit scale and read values between the marked units

IRD4 – SHAPE OF DATA DISPLAYS

- ☐ I can determine and calculate the most appropriate statistic to describe the data
- ☐ I can use simple descriptive statistics, such as mean or median, as measures to help compare data
- ☐ I can compare the usefulness of different representations of the same data

IRD5 – GRAPHICAL REPRESENTATIONS OF DATA

- ☐ I can use and create graphs relevant to the collected data
- ☐ I can use features of graphs to make predictions about the data
- ☐ I can recognise that variables depicting growth or change may vary over time, e.g. weather in different months or the growth of a plant
- ☐ I can interpret graphs depicting motion such as distance-time graphs
- ☐ I can interpret and explain patterns in graphs of real-life situations
- ☐ I can interpret the impact of outliers in data
- ☐ I can determine whether to use data from a sample or a population
- ☐ I can determine what type of sample to use from a population
- ☐ I can make reasonable statements about a population based on evidence from samples

IRD6 – RECOGNISING BIAS

- ☐ I can apply an understanding of distributions to evaluate claims based on data, e.g. the larger the sample taken, the more accurate predictions about the total population will likely be
- ☐ I can recognise and explain bias as a possible source of error in media reports of survey data
- ☐ I can justify criticisms of data sources that include biased statistical elements, e.g. inappropriate sampling from populations