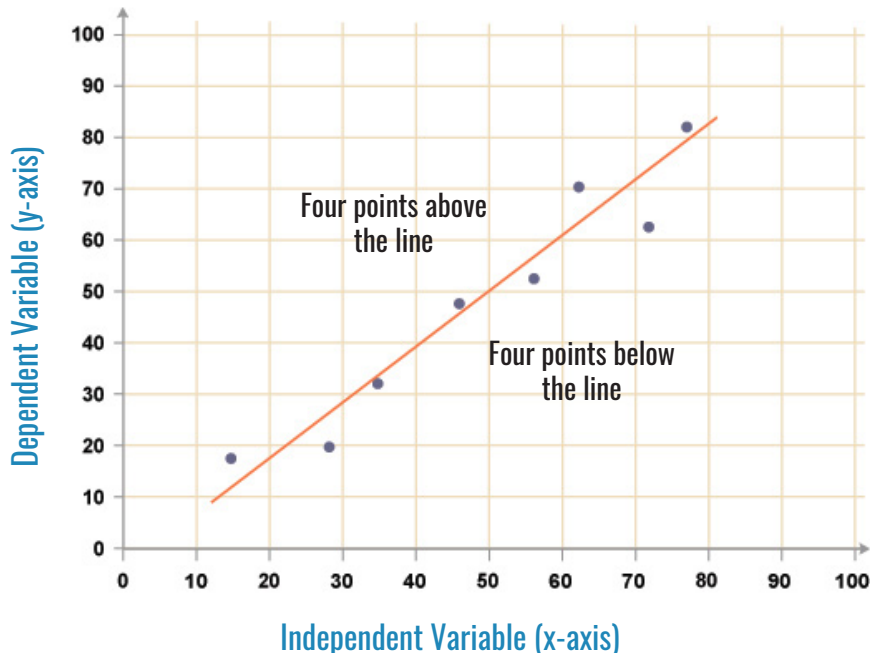


Scatterplot Worksheet

Scatterplots

Scatterplots are charts or graphs where the values of two variables are plotted along a horizontal and vertical axis. The patterns of the data points are used to identify trends or correlations in data sets.



The independent variable (e.g. time) is plotted on the x-axis (horizontal) while the dependent variable is plotted on the y-axis (vertical).

Each coordinate of the scatterplot is plotted against both variables. All coordinates on the chart are then used to approximate a trend (e.g. increasing, decreasing).

A line of best fit can also be placed to represent this trend. These are drawn approximately through the centre of the data, attempting to have an equal number of points above and below the line.

Proportional rates of people experiencing homelessness

1. Read over the data tables on the following pages. This data represents the number of homeless people in each state.
2. For each table calculate the rates per ten thousand of the population using the given rule (number of people experiencing homelessness / population in millions).
3. Once you have calculated the rates per million for each data set, create one comparative scatterplot to show how each state between 2001 and 2016. The graph will show the data from all states and a trendline for each.

Image source: http://www.bbc.co.uk/bitesize/ks3/maths/handling_data/representing_data/revision/9/

Number of People Experiencing Homelessness in 2001

State	Number of people experiencing homelessness	Population (in 10,000)	People experiencing homelessness per Ten Thousand of the Population (HPTTP) <small>Number of people experiencing homelessness/population in ten thousands</small>
NSW	23,041	6,311	
VIC	18,154	4,612	
QLD	19,316	3,586	
SA	5,844	1,459	
WA	9,799	1,832	
TAS	1,264	455	
ACT	943	309	

Number of People Experiencing Homelessness in 2006

State	Number of people experiencing homelessness	Population (in 10,000)	People experiencing homelessness per Ten Thousand of the Population (HPTTP) <small>Number of people experiencing homelessness/population in ten thousands</small>
NSW	22,219	6,549	
VIC	17,410	4,932	
QLD	18,856	3,905	
SA	5,607	1,514	
WA	8,277	1,959	
TAS	1,145	476	
ACT	949	324	

Number of People Experiencing Homelessness in 2011

State	Number of people experiencing homelessness	Population (in 10,000)	People experiencing homelessness per Ten Thousand of the Population (HPTTP) <small>Number of people experiencing homelessness/population in ten thousands</small>
NSW	27,479	6,918	
VIC	22,306	5,354	
QLD	19,039	4,338	
SA	5,816	1,597	
WA	9,191	2,240	
TAS	1,537	495	
ACT	1,738	357	

Number of People Experiencing Homelessness in 2016

State	Number of people experiencing homelessness	Population (in 10,000)	People experiencing homelessness per Ten Thousand of the Population (HPTTP) Number of people experiencing homelessness/population in ten thousands
NSW	37,715	7,480	
VIC	24,817	5,927	
QLD	21,617	4,703	
SA	6,224	1,677	
WA	9,005	2,474	
TAS	1,622	510	
ACT	1,596	387	

A full-page sheet of white graph paper featuring a uniform grid of thin black horizontal and vertical lines. The grid consists of 20 columns and 20 rows, creating a total of 400 small squares. There are no margins, text, or other markings on the page.

Sources for Population Data

2016 - Census of Population and Housing: Estimating Homelessness, 2016 - <http://www.abs.gov.au/AUS-STATS/abs@.nsf/DetailsPage/2049.02016?OpenDocument>

2011, 2006 & 2001 - Census Quick Stats: All people - usual residents - <http://www.abs.gov.au/websitedbs/D3310114.nsf/Home/2016%20search%20by%20geography>

Sources for People Experiencing Homelessness Data

Table 1.1 HOMELESS PERSONS, Selected characteristics, 2001, 2006, 2011 and 2016 (<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2049.02016?OpenDocument>)