

**KEEP  
CALM  
AND  
DO SOME  
REVISION**

## Goals

**Test and Review:**

**HAVE YOU GOT A CALCULATOR?  
(you cannot use your phone)**

**Write here when and where your test is:**

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## Theoretical Components

### STEP 1

#### Resources:

PDF file: Week 1-7 Notes and Exercises

#### Checklist:

Week 1/2/3/4/5

- Types of data
- Frequency tables
- Column graphs
- Histograms
- Stem and leaf plots
- Dot plots
- Outliers
- Mean, median, mode
- Range and interquartile range
- Five number summary and boxplots
- Deciles and percentiles
- Standard deviation
- Describing spread

Week 6/7

- Fractions to percentages
- Percentages as decimals
- Find a percentage of a given amount
- Expressing a quantity as a percentage
- Percentage after percentage
- Simple interest
- Term deposits
- Calculating repayments

Other

Have you organised your folders yet?

Don't forget you are allowed to take your classwork to the test as reference.

## Practical Components

### STEP 2

Go through your folders and complete any missing tasks and review any questions that are incorrect.

#### Review:

- Representing and comparing data
- Percentages

**Catch up and submit briefs and portfolio tasks – Week 1 to 7**

## Portfolio Task

### STEP 3

Your classwork and portfolio tasks make up 25% of your grade for this semester.

Make sure you have handed in any unsubmitted work before the exam. This will allow your teacher to provide you some feedback prior to the exam.

Organise your folders in preparation for your test.



**Checklist: Are you up to date with your briefs this semester?**

Brief: topic/work covered	Rules and formulae; worked examples / Reminders
Week 1: Data  <b>Score: /10</b>	
Week 2: Numerical data  <b>Score: /10</b>	
Week 3/4: Summarising and interpreting data  <b>Score: /10</b>	
Week 5: Comparing data sets  <b>Score: /10</b>	
Week 6/7: Percentages and applications  <b>Score: /10</b>	
<b>TOTAL</b>  <b>Score: /50</b>	<p align="center">%</p>

### Revision Exercise 1

1. Express 43% as a fraction in simplest form.
2. Express 90% as a fraction in simplest form.
3. Write the fraction  $\frac{7}{10}$  as a percentage.
4. Express the fraction  $\frac{15}{71}$  as a percentage, correct to two decimal place.
5. Consider the fraction  $\frac{114}{400}$ .
  - a. first, convert to a fraction with a denominator of 100.
  - b. now, convert to a percentage.
6. Express 4.5% as a fraction in simplest form.
7. Dan is paying for a meal with lots of friends. They received great service, so he is giving a 20% tip. The meal cost \$182.30, how much will Dan leave as a tip? Show working.
8. Tobias works at a restaurant that automatically charges 25% service to groups of 8 or more people. He has just served a group of 8 people. Before sales tax, their meal came to \$238.51. How much of a tip is Tobias going to get from this bill? Round your answer to the nearest cent.
9. Ian is going to invest his \$15 000 for the short term of 6 months at 3.80% p.a., interest is paid at maturity. How much interest will he earn from this investment?
10. The population of a city in the year 2000 was 500,000. Over the following decade the population grew by 8%. What was the population of the city in 2010?
11. 15% of the cost of a computer was tax. If the tax was \$180, what was the cost of the computer?

Check out the answers next page 😊

## Revision Exercise 1      ANSWERS

1. Express 43% as a fraction in simplest form.

$$\frac{43}{100}$$

2. Express 90% as a fraction in simplest form.

$$\frac{90}{100} = \frac{9}{10}$$

3. Write the fraction  $\frac{7}{10}$  as a percentage.

$$70\%$$

4. Express the fraction  $\frac{15}{71}$  as a percentage, correct to two decimal place.

$$15 \div 71 \times 100 (\text{then ADD THE \% SIGN}) = 21.13\%$$

5. Consider the fraction  $\frac{114}{400}$ .

- a. first, convert to a fraction with a denominator of 100.

$$\frac{114}{400} = \frac{114 \div 4}{400 \div 4} = \frac{28.5}{100} = 28.5\%$$

Once the fraction is out of 100 (denominator), the numerator (top part) is the percent.

- b. now, convert to a percentage.

$$= 28.5\%$$

6. Express 4.5% as a fraction in simplest form.

$$\frac{4.5}{100} = \frac{45}{1000} = \frac{9 \times 5}{200 \times 5} = \frac{9}{200}$$

7. David is paying for a meal with lots of friends. They received great service, so he is giving a 20% tip. The meal cost \$182.30, how much will David leaves as a tip? Show working.

$$0.2 \times 182.30 = 36.46, \text{ Cost of meal} = \$36.46 + 182.30 \\ = \$218.76$$

$$\text{Note: } 1.2 \times 182.30 = 218.76$$

8. Tobias works at a restaurant that automatically charges 25% service to groups of 8 or more people. He has just served a group of 8 people. Before sales tax, their meal came to \$238.51. How much of a tip is Tobias going to get from this bill? Round your answer to the nearest cent.

$$0.25 \times 238.51 = \$59.63$$

9. 'Interest paid at maturity' means that the investment will earn simple interest

In the formula  $I = Prn$ ,  $P = \$15\,000$ ,  $r = 0.038$  and  $n = \frac{1}{2}$  year.

$$\text{Interest} = \$15\,000 \times 0.038 \times \frac{1}{2} = \$285$$

When his investment matures, Ian will receive \$285 in interest. The total he will receive back from the bank will be \$15,280.

10.

Increase = 8% of 500,000

$$8\% = \frac{8}{100}$$

So the increase was:

$$\frac{8}{100} \times 500,000 = \frac{8 \times 500,000}{100} = 8 \times 5,000 = 40,000$$

Therefore, the population in 2010 was  $500,000 + 40,000 = 540,000$

11.

15% of the cost was \$180.

We need to find the total cost, or 100% of the cost.

Method 1)

Find what just 1% is:

$$\Rightarrow \$180 / 15 = \$12$$

So if 1% is \$12, then 100% is \$1,200

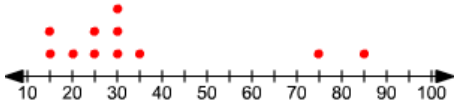
Method 2)

15% is 0.15, then use division:

$$\Rightarrow \$180 / 0.15 = \$1,200$$

So the cost of the computer was \$1,200

(Check: 15% of \$1,200 is \$180)

Week/Fortnight - Topic	Notes, Rules, Formulae and Worked Examples (Complete before the Exam) ADD your own notes and worked examples
<p>Week 1</p> <p>Identify examples of categorical data</p> <p>Identify examples of numerical data</p> <p>Display categorical data in tables and column graphs</p>	<p>Example:</p>
<p>Week 2</p> <p>Display numerical data as frequency distributions, dot plots, stem and leaf plots, and histograms</p> <p>Recognise and identify outliers</p> <p>Compare the suitability of different methods of data presentation in real-world contexts</p>  <p style="text-align: center;">Dot Plot</p>	<p>Example:</p>

<p>Week 3/4</p> <p>Identify the mode</p> <p>Calculate measures of central tendency, the arithmetic mean and the median</p> <p>Investigate the suitability of measures of central tendency in various real-world contexts</p> <p>Investigate the effect of outliers on the mean and the median</p> <p>Calculate and interpret quartiles, deciles and percentiles</p> <p>Use informal ways of describing spread, such as spreadout/dispersed, tightly packed, clusters, gaps, more/less dense regions, outliers</p> <p>Calculate and interpret statistical measures of spread, such as the range, interquartile range and standard deviation</p> <p>Investigate real-world examples from the media illustrating inappropriate uses, or misuses, of measures of central tendency and spread</p>	<p>The maximum daily temperatures (in °C) for the month of October in Melbourne are:</p> <p style="text-align: center;">18 26 28 23 16 19 21 27 31 23 24 26 21 18 26 27 23 21 24 20 19 25 27 32 29 21 16 19 23 25 27</p> <p>Represent this data in a boxplot.</p>
<p>Week 5</p> <p>Compare back-to-back stem plots for different data-sets</p> <p>Complete a five number summary for different data-sets</p> <p>Construct box plots using a five number summary</p> <p>Compare the characteristics of the shape of histograms using symmetry, skewness and bimodality</p>	<p><b>What is the 5-number summary? When do you use it?</b></p> <p><b>Example:</b></p>



Week 6/7

Review calculating a percentage of a given amount

Review one amount expressed as a percentage of another

Determine the overall change in a quantity

Following repeated percentage changes; for example, an increase of 10% followed by a decrease of 10%

Calculate simple interest for different rates and periods



**Example:**

Remind yourself of the following conversions (always).

Answer the following questions:

- 1) 1 week = \_\_\_\_\_ days.
- 2) 2 minutes = \_\_\_\_\_ seconds.
- 3) 1 day = \_\_\_\_\_ hours.
- 4) 1 fortnight = \_\_\_\_\_ weeks.
- 5) 1 year = \_\_\_\_\_ months.
- 6) 3 minutes = \_\_\_\_\_ seconds.
- 7) 4 hours = \_\_\_\_\_ minutes.
- 8) 3 years = \_\_\_\_\_ months.
- 9) January = \_\_\_\_\_ days.
- 10) June = \_\_\_\_\_ days.
- 11) 49 days = \_\_\_\_\_ weeks.
- 12) 240 seconds = \_\_\_\_\_ minutes.
- 13) 96 hours = \_\_\_\_\_ days.
- 14) 10 weeks = \_\_\_\_\_ days.

