NUMERACY
Skills Development Booklet

VPC 3&4

Important: All material, advice and assessment tasks are provided as a guide only and do not constitute official advice. As always you must check with the VCAA and any other relevant authorities about the suitability of a task.
Copyright notice/License information:
⇨ **All material in this printed workbook may only be reproduced by the school or institution named on each page in accordance with its purchase of a master license.**
⇨ **All use of material must include the copyright and license notices at the bottom of each page. You are not permitted to electronically re-engineer or extract material from a page. Please see the Read Me First file for full licensing information in relation to a master license.**
⇨ **Unauthorised copying and reproduction of this material constitutes a breach of the Copyright Act.**
⇨ **For best results the material has been formatted to be reproduced from the master file.**

VPC Units 1&2: From 2023
⇨ Literacy VPC 1&2: Coursebook & Applied Vocational Booklet
⇨ Numeracy VPC 1&2: Coursebook & Skills Development Booklet
⇨ Personal Development VPC 1&2: Coursebook & Applied Vocational Booklet
⇨ Work Related Skills VPC 1&2: Coursebook & Applied Vocational Booklet

VPC Units 3&4: From 2024
⇨ Literacy VPC 3&4 : Coursebook & Applied Vocational Booklet
⇨ Numeracy VPC 3&4: Coursebook & Skills Development Booklet
⇨ Personal Development VPC 3&4: Coursebook & Applied Vocational Booklet
⇨ Work Related Skills VPC 3&4: Coursebook & Applied Vocational Booklet

VCE: VM Units 1&2: From 2023
⇨ Literacy VM 1&2: Coursebook & Applied Vocational Booklet
⇨ Numeracy VM 1&2: Coursebook & Skills Development Booklet
⇨ Personal Development VM 1&2: Coursebook & Applied Vocational Booklet
⇨ Work Related Skills VM 1&2: Coursebook & Applied Vocational Booklet

VCE: VM Units 3&4: From 2024
⇨ Literacy VM 3&4: Coursebook & Applied Vocational Booklet
⇨ Numeracy VM 3&4: Coursebook & Skills Development Booklet
⇨ Personal Development VM 3&4: Coursebook & Applied Vocational Booklet
⇨ Work Related Skills VM 3&4: Coursebook & Applied Vocational Booklet

www.delivereducation.com.au   michael@delivereducation.com.au

2024 DELIVER Education: Order form for Semester 2 2024. All prices are (GST inc.)

2024 VM & VPC

VCE: Vocational Major

--- All U1-4 now available ---

	Printed Coursebook	Applied Vocational Booklet	Master license PDFs	e-version Master license PDFs
Literacy VM: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Numeracy VM: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Personal Development VM: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Work Related Skills VM: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Literacy VM: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Numeracy VM: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Personal Development VM: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Work Related Skills VM: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495

Vocational Pathways Certificate

--- All U1-4 now available ---

	Printed Coursebook	Applied Vocational Booklet	Master license PDFs	e-version Master license PDFs
Literacy VPC: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Numeracy VPC: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Personal Development VPC: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Work Related Skills VPC: 3&4	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Literacy VPC: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Numeracy VPC: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Personal Development VPC: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495
Work Related Skills VPC: 1&2	___ @ $49.50	___ @ $27.50	___ @ $385	or ___ @ $495

Vocational and Work Education Resources

	Printed Book	e-version Master license PDFs
Work Experience Journal	___ @ $22	or ___ @ $165
Work Placement Journal	___ @ $33	or ___ @ $220
PDS Planner: VPC 1&2	___ @ $33	or ___ @ $220
PDS Planner: VPC 1&2	___ @ $33	or ___ @ $220
PDS Planner: VM 1&2	___ @ $33	or ___ @ $220
PDS Planner: VM 3&4	___ @ $33	or ___ @ $220
Foundation Numeracy	___ @ $33	na
Senior Numeracy	___ @ $33	na

WACE: Career and Enterprise

Career and Enterprise	Printed Text Coursebook	e-version Master PDFs
CAE: General 11 2ed	___ @ $60	or ___ @ $660
CAE: General 12/ATAR 11 2ed	___ @ $62	or ___ @ $660
CAE: ATAR 12 2ed	___ @ $68	or ___ @ $770
CAE: Foundation 11	___ @ $55	or ___ @ $595
CAE: Foundation 12	___ @ $55	or ___ @ $595

VCE: Industry and Enterprise

New editions were released in 2022

I&E Unit 1: Workplace Participation 5ed - book	___ @ $38
I&E Unit 1: Workplace Participation - e-master	___ @ $550
I&E 1&2: Towards an Enterprising You 6ed - book	___ @ $55
I&E 3&4: Towards an Enterprising Australia 5ed - book	___ @ $68

Add Postage:
VM & VPC: 1 book = $14, 2-4 books $20, 5-8 books $27. *9+ Contact me
I&E and CAE: 1 book = $14, 2-3 books $20, 4-5 books $27. *6+ Contact me

Money Matters 1: Cash transactions & orders

Master now available: Print book mid-June '24

Master license only		$165.00
Master license pack	____	$247.50
Add postage:	____	$16
Inc. Master license files, Money set, Printed book		
Print book only 1-4 copies	____	$33
Print book only 5+ copies	____	$30
Print book only 20+ copies	____	$27.50

Add postage: ____
Master w/money set & book $16
Printed book only: 1-2 copies $10
Printed book only: 3-10 copies $15
Printed book only: 10+ copies $20

Total Amount (approx) $ _____

Order Details

Name:

Position:

e-mail:

School:

Address:

State: Postcode:

Order No: ABN:

email for invoice (if different):

VM Total $	VPC Total $	VCAL Total $
Voc Ed Total $	CAE Total $	I&E Total $
Postage $		**Total Amount (approx)** $ _____

Progress Record

Topic	Skills Development			Advanced			Applied		
	Done?	Date	p.	Done?	Date	p.	Done?	Date	p.
1 Addition			2			3			3
2 Subtraction			4			5			5
3 Addition and Subtraction			6			7			8-9
4 Multiplication and Division			10			11			11
5 Order of Operations			12			13			13
6 Fractions, Decimals, Percentages			14			15			1
7 Estimating and Rounding			16			17			17
8 Data and Information			18			19			19
9 Bar Graphs			20			21			21
10 Pie Charts			22			23			23
11 Line Graphs			24			25			25
12 Time			26			27			27
13 Directions and Location			28			29			29

Progress Record

Topic	Skills Development			Advanced			Applied		
	Done?	Date	p.	Done?	Date	p.	Done?	Date	p.
14 Angles			30			31			31
15 Money			32			33			33
16 Making Change			34			35			35
17 Discounts and Prices			36			37			37
18 Pay			38			39			39
19 Rosters and Timesheets			40			41			4
20 Budgets			42			43			43
21 Tables			4			45			45
22 Length and Distance			46			47			47
23 Measurements			48			49			49
24 Weight (Mass)			50			51			51
25 Capacity			52			53			53
26 Likelihood			54			55			55

1 Addition

Skills Development

Complete the following **addition** calculations to build your skills. Make sure that you show appropriate workings out.

a. $6 + 58 =$	b. $11 + 9 =$	c. $\begin{array}{r} 6 \\ + 95 \\ \hline \end{array}$	d. $\begin{array}{r} 5 \\ + 195 \\ \hline \end{array}$
e. $39 + 68 =$	f. $81 + 93 =$	g. $\begin{array}{r} 13 \\ + 72 \\ \hline \end{array}$	h. $\begin{array}{r} 25 \\ + 85 \\ \hline \end{array}$
i. $19 + 98 =$	j. $36 + 198 =$	k. $\begin{array}{r} 10 \\ + 135 \\ \hline \end{array}$	l. $\begin{array}{r} 55 \\ + 182 \\ \hline \end{array}$
m. $4 + 9 + 15 =$	n. $28 + 36 + 16 =$	o. $\begin{array}{r} 16 \\ 85 \\ + 95 \\ \hline \end{array}$	p. $\begin{array}{r} 39 \\ + 69 \\ \hline \end{array}$
q. $4 + 44 + 196 =$	r. $11 + 199 + 196 =$	s. $\begin{array}{r} 15 \\ 30 \\ + 110 \\ \hline \end{array}$	t. $\begin{array}{r} 17 \\ 95 \\ + 150 \\ \hline \end{array}$
u. $5 + 65 + 153 + 9 =$	v. $15 + 55 + 138 + 5 =$	w. $\begin{array}{r} 85 \\ 56 \\ 3 \\ + 11 \\ \hline \end{array}$	x. $\begin{array}{r} 51 \\ 8 \\ 112 \\ + 30 \\ \hline \end{array}$

Advanced

Calculate the following **addition** problems and show your workings out for each.

a. 8 + 9 + 7 + 6 + 16 + 5 =	b. 44 + 66 + 88 + 22 =	c. 8 + 1.5 + 25 + 2.5 =
d. 25 people in 1st queue, 27 in 2nd, 34 in 3rd. Total people?	e. 30kg of potatoes, 2kg onions, 45kg snags and 10kg burgers. How many kgs?	f. A party has 5 families with 18, 22, 35, 11 & 17 members respectively. How many people?
g. Add 50 40 times to 100 = ∎	h. 38 sheep in one flock and twice as many in another. How many sheep in total?	i. 1 + 10 + 100 + 1,000 + 10,000 + 100,000 + 1,000,000

Applied

a. Nadia is tracking her water intake, but she doesn't have anything that measures it. Instead, she keeps a record. On Monday, she drank 1.5 litres of water, on Tuesday she had 1l, on Wednesday she drank 750ml, on Thursday and Friday combined she consumed 2.2l, on Saturday she drank 1.3l, and on Sunday she drank 2.5l. How much water did she drink in total over the week? Is this good?

b. At the farmer's market, Elena sells baskets of apples (20 in each). The first customer buys 5 baskets, the second buys 8 baskets, the third (a local restaurant) purchases 20 baskets, and the next 4 customers buy 3 baskets each. The final customer buys 2 dozen baskets of apples. How many baskets of apples did Elena sell in total? How many apples in total?

Skills Development

Complete the following **subtraction** calculations to build your skills. Make sure that you show appropriate workings out.

a. 35 - 7 =	b. 88 - 9 =	c. $\begin{array}{r} 52 \\ -\ 2 \\ \hline \end{array}$	d. $\begin{array}{r} 65 \\ -\ 9 \\ \hline \end{array}$
e. 94 - 35 =	f. 194 - 53 =	g. $\begin{array}{r} 82 \\ -\ 17 \\ \hline \end{array}$	h. $\begin{array}{r} 105 \\ -\ 25 \\ \hline \end{array}$
i. 180 - 54 =	j. 156 - 57 =	k. $\begin{array}{r} 210 \\ 55 \\ \hline \end{array}$	l. $\begin{array}{r} 225 \\ -\ 16 \\ \hline \end{array}$
m. 25 - 9 - 3 =	n. 99 - 44 - 22 =	o. $\begin{array}{r} 76 \\ -\ 30 \\ -\ 15 \\ \hline \end{array}$	p. $\begin{array}{r} 119 \\ -\ 51 \\ -\ 80 \\ \hline \end{array}$
q. 10,000 - 4,500 - 500 =	r. 1,000 - 2200 - 60 =	s. $\begin{array}{r} 800 \\ -\ 70 \\ -\ 10 \\ \hline \end{array}$	t. $\begin{array}{r} 850 \\ -\ 270 \\ -\ 90 \\ \hline \end{array}$
u. 111 - 77 - 20 - 9 =	v. 198 - 80 - 38 - 2 =	w. $\begin{array}{r} 60 \\ -\ 56 \\ -\ 40 \\ -\ 11 \\ \hline \end{array}$	x. $\begin{array}{r} 5,000 \\ -\ 500 \\ -\ 200 \\ -\ 700 \\ \hline \end{array}$

Advanced

Calculate the following **subtraction** problems and show your workings out for each.

a. 77 - 8 - 4 - 9 - 13 - 22 =	b. 244 - 33 - 22 - 11 - 66 =	c. 20 - 1.5 - 17 - 2.5 =
d. 250 cars in car park. 62 leave in hour 1, 28 in hour 2 and 64 in hour 3. How many cars remain?	e. Li made 60 sangers for the party. Mi eats 6, Vi 8, Si 12, Di 9 and Zed 15. How many sangers left?	f. Dolly is making pies. Each 20 requires 2kg of mince. After starting with 10kg of mince how much is left after making 80?

Applied

a. Snax is shopping online and has $750 in his account. He spends $300 on a MU jersey, $175 on a new pair of boots, $150 on a team jacket and buys 3 scarves at $25 each. After ordering a $20 delivery lunch how much does he have left?

b. Bitza is doing a 7-day 1,400 km cycling training program. On day 1 she cycles 240 km, day 2: 75 km, day 3: 45 km and day 4: 115 km. How many kilometres does she need to cycle on days 5-7 to reach her target? Will she make it?

3 Addition and Subtraction

Skills Development

Complete the following **addition and subtraction** calculations to build your skills. Make sure that you show appropriate workings out.

a. 14 + 28 - 9 =	b. 63 - 17 + 42 =	c. 35 + 19 + 27 - 14 =
d. 94 + 126 - 58 =	e. 78 - 33 + 55 =	f. $\begin{array}{r} 45 \\ +\ 36 \\ -\ 22 \\ \hline \end{array}$
g. 135 + 56 - 12 - 14 =	h. 20 + 50 + 80 - 50 - 20 =	i. $\begin{array}{r} 150 \\ \end{array}$
j. 8 + 5 + 4 + 9 - 4 - 9 =	k. 132 + 15 - 14 + 81 =	l. $\begin{array}{r} 11 \\ +133 \\ -\ 11 \\ -\ 58 \\ \hline \end{array}$
m. 27 + 45 - 19 - 7 - 2 - 3 =	n. 1,158 + 252 - 200 =	o. 152 - 147 + 125 - 78 =
p. 10,000 + 2,000 - 5,000 =	q. 800 - 350 + 1,750 - 950 =	r. 90 - 40 - 25 - 35 =

Advanced

Calculate the following **addition and subtraction** problems and show your workings out for each.

a. 4.5 + 37 + 9.5 - 12.75 =	b. 250 - 55 - 27.5 + 6 + 900 =	c. 12 - 18 + 2,000 + 25 - 90 =
d. 7,500 - 5,750 + 9,995 - 2,125 =	e. 86,000 + 94,000 - 50,000 =	f. 18,000 + 2,000 - 950 - 6,500 =
g. 19,000 + 7,250 + 8,700 - 6,400 =	h. 91,000 + 23,000 + 105,000 - 200,000 =	i. 2,200,000 + 250,000 + 950,000 - 900,000 =
j. 7.6 - 4.6 + 8.8 - 3.4 + 5.8 - 1.5 =	k. 1,000kg add another 2,000kg then take away 1,725kg =	l. 1 million plus a 10 million minus 1 million =

3 Addition and Subtraction

Applied

You start with $200. In the first week, you earn $120 and spend $80. In the second week, you earn $180 and spend $150. In the third week, you earn $250 and spend $200. Finally, you earn $100 in the last week but spend $180. How much money do you have left after these four weeks?

a. What amount do you have left?

b. What are you going to have to do if you stop earning money? Why?

c. Describe a mathematics tool that can help you keep track of your ongoing personal income and spending.

Faduma is running a popcorn stand at the carnival. She starts by popping batches of popcorn, each weighing 1.5 kg. Then, 15 customers each buy a 200 gram bag of popcorn. After that, Faduma pops another 2 batches of popcorn, each weighing 1 kg. Five more customers arrive and each buys a 150 gram bag of popcorn.

d. How much popcorn did Faduma sell in total? How much popcorn is left?

e. Estimate how much you think the total of the popcorn might have sold for.

A greengrocer starts with the following stock.

⇨ Apples: 100 bags   ⇨ Bananas: 50 kg   ⇨ Tomatoes: 40 kg

⇨ Oranges: 75 bags   ⇨ Carrots: 60 bags   ⇨ Lettuces: 30

At the end of the week it has these amounts of stock left.

⇨ Apples: 30 bags   ⇨ Bananas: 20 kg   ⇨ Tomatoes: 25 kg

⇨ Oranges: 50 bags   ⇨ Carrots: 35 bags   ⇨ Lettuces: 15

f.   Based on these numbers, how many of each item did it sell?

g.   How many items did it sell in total?

A competitor shop sells the same items. At the start of the week it starts with the same amounts of stock. However, at the end of the week these are the totals.

⇨ Apples: 22 bags   ⇨ Bananas: 2 kg   ⇨ Tomatoes: 7 kg

⇨ Oranges: 31 bags   ⇨ Carrots: 4 bags   ⇨ Lettuces: 7

h.   So based on those numbers, how many of each item did the competitor sell, and how many items did it sell in total?

i.   Which shop do you think is doing better? Explain the reasons for your answer.

j.   If you climb 15 metres up a steep slippery hill every minute, but slip back 5 metres each time, how far up the hill will you have climbed after 10 minutes?

4 Multiplication and Division

Skills Development

Complete the following **multiplication** and **division** calculations to build your skills.
Make sure that you show appropriate workings out.

a. 12 x 4 =	b. 12 ÷ 4 =	c. 80 x 10 =
d. 88 ÷ 11 =	e. 120 x 5 =	f. 250 / 25 =
g. 80 x 2 / 5 =	h. 120 ÷ 10 x 5 =	i. 1,000 / 10 ÷ 8 =
j. 80 x 10 / 20 =	k. 2,000 / 5 x 6 =	l. 288 ÷ 4 x =
m. 1,200 divided by 5 =	n. 80 times 2 and a half =	o. 10 into 500 by 7 =
p. 83.5 x 5 =	q. 121 / 11 ÷ 2 =	r. (990 ÷ 90) x 1/3 =

Advanced

Calculate these **multiplication** and **division** problems; show your workings out.

a. 405 * 30 =	b. 100 x 50 x 10 =	c. 50 * (11 x 12) * 20 =
d. 10 x 5,000 x 5 x 20 =	e. 11 x 22 x 33 =	f. 48 * 10(-2) =
g. 290 * 10 / 5 =	h. 6,666 / 6 / 11 =	g. 105 ÷ 5 ÷ 2 =
h. A person walks 60 minutes each day in March. Total?	i. 12 people each pay streaming fees of $35. They do this for 2 weeks. Total?	j. A child runs up and down 18 stairs 15 times a day. How many stairs in a fortnight?
k. A bulk purchase of oranges weighs 10kg. Each weighs about 200g. How many oranges?	l. Have to share six 12 slice pizzas between 12 students. How many slices each?	m. Table of 5 has a bill of $350. How much will each diner pay if they split the bill evenly?

Applied

Tally drives 27 km each weekday to and from work and usually another 100km on each weekend for personal trips. How many km per week and per year? (What about per month?)

Skills Development

Complete each of these calculations using the correct **order of operations**. Make sure that you show appropriate workings out.

a. 9 x 6 + 6 =	b. 8 + 8 x 4 =	c. 12 x 10 / 5 =
d. 12 * 12 - 44 =	e. 20 * 14 - 25 =	f. 18 + 25 * 9 =
g. 12 / 3 + 37 + 10 =	h. 15 x 6 + 25 + 8 =	i. 25 + 3 + 25 x 3 =
j. 3 x 6 + 12 x 8 =	k. 8 + 15 - 9 * 20 =	l. 33 x 5 + 4 x 6
m. 105 - (9 x 8) - 20 =	n. 15 + (70 x 20) - 50 =	o. 30 x 30 - 30 x 30 =
p. 25 / 5 + (9 x 20) x 10 =	q. 1,000 / 25 + (6 x 10.5) =	r. 150 - 143 + (17 * 6) - 12 =

Advanced

Calculate the answers for each of these situations using the correct **order of operations**.

a. A person runs 3 km per week day, 4 times a week, and 7 km each weekend day. Total km in a year?	b. You earn $25 a day for two weeks, but spend $150. You then earn another $22.50 for 4 days running. How much do you have?	c. Each outfit requires 2.5m of cloth + 1/3 metre for hems & seams. How many metres for 8 outfits?
d. A coach has 7 groups of 7 players. They add 7 more players and then split them into 8 groups. How many per group?	e. A customer buys 15 hats at $15 each and 15 scarves at $12 each. He wants to pay in 5 equal instalments.	f. You have 350 jelly beans for 7 people at the party. But an extra 3 people turn up. How many for each?

Applied

You're purchasing supplies for a school event at a stationary store. You order 100 notebooks at $3 each, 100 pens at $0.50 each, and 25 packs of markers at $4 each. You're aware that you need to pay a deposit equal to a half of the total cost, and you have $225 cash in hand for the deposit of 50%.

The cashier, appearing rather impatient, enters the amounts into the register. "That'll be $1,500 in total, and your deposit is $750," she announces briskly.
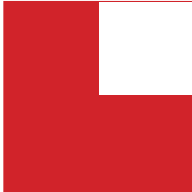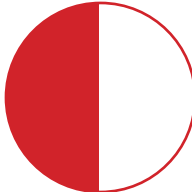
Feeling uncertain about the calculation, you politely request her to double-check. She responds with a sigh and re-enters the numbers, then confidently declares, "See, a hundred times three, plus a hundred times fifty cents, plus twenty-five, times four, equals fifteen hundred dollars! And a half of that is seven hundred and fifty dollars. Please pay quickly, there are other customers waiting."

But you have paid attention during **order of operations** and your teacher has guided you well. You did the calculations when budgeting for the party so you feel that you should be correct. What will you do to show her that you are correct?

Skills Development

a. Write each of the following as a **fraction**, a **decimal** and a **percentage**. For the images write these for both the red (shaded) and white portions.

a.	b.	c.
d.	e.	f.
g. a half	h. a quarter	i. a fifth
j. two thirds	k. three quarters	l. seven eighths

b. Write each of the following fractions as a **decimal** and as a **percentage**.

a. 2/10	b. 6/10	c. 1/3	d. 8/10
e. 15/100	f. 3/20	g. 7/8	h. 3/4

Advanced

Calculate the following based on **percentages**, **decimals** and **fractions**.

a. 1/2 + 1/2 =	b. 1/4 + 3/4 =	c. 1/2 + 1/3 =	d. 1/8 + 1/2 =
e. 1/2 + 0.5 =	f. 0.45 + 1/2 =	g. 0.1 + 0.7 + 1/2 =	h. 0.2 + 1/2 - 0.3 =
i. 3/4 - 1/2 =	j. 1.9 - 0.7 =	k. 11.5 + 2 - 1.5 =	l. 0.5 + 1/4 - 0.2 =
m. 10% of 1,000 =	n. 10% of 150 =	o. 5% of 150 =	p. 4% of 900 =
q. 25% of 750 =	r. 75% of $10,000 =	s. 80% of $960 =	t. 55% of $550 =

Applied

a. Maisie likes Jaffas. She counts out 100 and will eat these evenly over the next 8 days. What fraction, decimal and percentage will she eat per day?

b. Sporg likes French fries. He makes 3kg to share evenly with 9 friends. What fraction, decimal and percentage is to be shared between them all? What would be the weight of each shared portion? Is that a suitable amount?

7 Estimating and Rounding

Skills Development

Complete the following **estimates**. Then do some research and/or calculations to **check** the **accuracy** of these.

a. How long would it take you to walk to work?	b. How far away is the nearest post office from you?	c. How long is a plane trip from Melbourne to Darwin?
d. What weight of fruit would you consume in a week?	e. How much does your family spend on electricity in a week?	f. How many SMS messages do you send a week?
g. How many km does your family vehicle travel in a year?	h. How much income are you likely to earn next month?	i. How many pairs of shoes and other footwear do you own?
j. How many kms do car tyres usually last for?	k. How much does your laptop weigh?	l. How much water do you use in a week?
m. How much water do you drink in a week?	n. How many hours a day do you spend 'moving'?	o. What is the temperature in this room now?
p. How much does your family spend on internet and phone bills in a year?	q. How much does your family spend on groceries in a month?	r. How many times do you smile a day?

Advanced

Complete the following **estimates**. Then do some research and/or calculations to **check** the **accuracy** of these.

a. Total height of your class members?	b. Total French fries your local Hungry Jacks or McDonald's sells in a day?	c. Total time it would take to paint your bedroom walls and ceiling?
d. Total weight of an AFL team?	e. Total bikes ridden to school each day?	f. Total wealth of Australia's 10 richest people?

Applied

a. How much income do you think you'll earn in your first year of full-time work? Show your calculations to get this estimate. What about in your lifetime?

b. Think of a child at the age of 10. What height do you think they would be? Research or make measurements to assess your estimates. How about you - what height were you at aged 10?

8 Data and Information

Skills Development

a. Put the following data in a **table** and arrange by **alphabetical order** of name.

⇨ Alize: 30; 165; Rabbit; Google; Blue; Sushi; Honda; AFLW

⇨ Bobo: 50; 180; Parrot; Motorola; Yellow; Pizza; Ford; Golf

⇨ Chuckie: 35; 175; Hamster; Galaxy; Orange; Pasta; Tesla; Trugo

⇨ Dev: 28; 185; Turtle; LG; NotBurgers; Golf; Swimming

⇨ Emil: 40; 170; Cat; iPhone; Pink; Salad; Audi; Climbing

Peoples' data and information							
Person	**Age**	**Height**	**Pet**	**Phone**	**Colour**	**Food**	**Car**	**Sport**

b. Complete the **missing amounts** for the following data.

Learner Hours Driven - March 2024			
Person	**Drives**	**Total hrs**	**Average**
Aaron	7	28	
Beal	20	75	
Caleb	30	69	
Drago	14	52	
Ethelred	6	3	
Totals			

Top Customer Purchases - March 2024			
Customer	**Purchases**	**Total $**	**Average**
Camin	2	04	
Cate'Lyn	17	102	
Katelyn	18	100	
Cate'Lin	24	480	
Khayteln	19	70	
Totals			

Hours Worked - March to July 2024					
Month	**Hours**	**Shifts**	**Hrs/Shift**	**Pay**	**Total pay**
March	36	9		$20	
April	36	4		$20	
May	48	12		$22	
June	64	8		$22	
July	88	22		$22	
Totals					

Advanced

The following data has been **incorrectly** inputted into the table. Fill out the blank table correctly in **alphabetical order**.

⇨ Bill worked 16 hours, at a rate of $18/hour.

⇨ Lil worked 20 hours at a rate of $28/hour.

⇨ Phil worked 30 hours at a rate of $25/hour.

⇨ Mil worked 38 hours at a rate of $17.50/hour.

⇨ Jyl worked 25 hours at a rate of $35/hour.

⇨ Zeb worked 2 shifts of 6 hours at a rate of $24/hour.

Employee pay table - Mar 12-18, 2024			
Worker	Hours	Rate $	Total
Bill	16	10	$288
Lil	20	28	$440
Phil	30	25	$750
Mil	0	17.50	$700
Syl	20	35	$910
Zeb	25	24	$600
Totals	133		$3868

Employee pay table - Mar 12-18, 2024			
Worker	Hours	Rate $	Total
Totals			

Applied

Survey 5 class members using the categories shown in question 1. on p.11. Complete a table to show the data you collect.
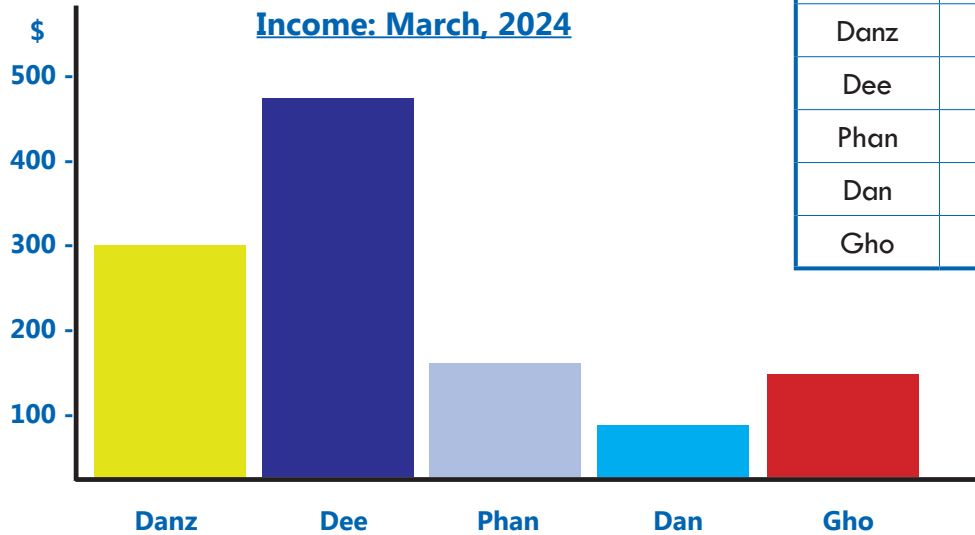
Peoples' data and information						
Person						

Comment on any patterns in the data.

9 Bar Graphs

Skills Development

a. Complete this **table** based on the information from the **bar graph**.

Income: March, 2024

| Income - March 2024	
Person	**Total**
Danz	
Dee	
Phan	$150
Dan	
Gho	

b. Complete a properly labelled **bar graph** to show the number of purchases for each customer in 2024.

c. Do the same for the total purchases.

Customer purchases 2024			
Customer	**Purchases**	**$**	**Total**
Jonni	20	50	$1,000
Ronni	9	45	$405
Vonni	2	60	$120
Honni	8	75	$600
Bonni	9	32	$288

Advanced & Applied

a. Use the **information** shown on the **bar graph** to comment on whether each of the following statements is true or false. Give reasons for your answer.

VPC Class: Reason for trips by bicycle: Mar 25 - Mar 31, 2024
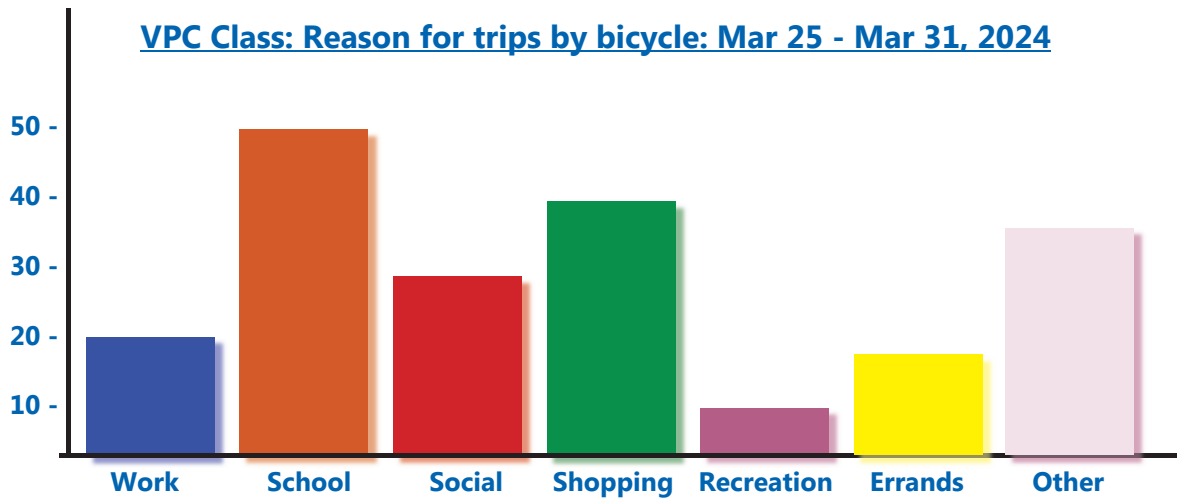
⇨ Bicycling for school was the most common trip for the students for that week.

⇨ 50 bicycle trips were made for shopping during the week.

⇨ More students use their bikes for social visits than for errands.

⇨ There were some students using their bikes to travel to work.

⇨ There were at least 150 bike trips made during the week.

⇨ There were quite a lot of trips for 'other' reasons. These might include:

b. Complete a bar graph for the same information based on a survey of students in your class. Write 5 clear statements that describe the data and information.

10 Pie Charts

Skills Development

a. Estimate the **percentage** (%) represented by each piece (or portion) of the pie for these pie charts.

a.	b.	c.
d.	e.	f.
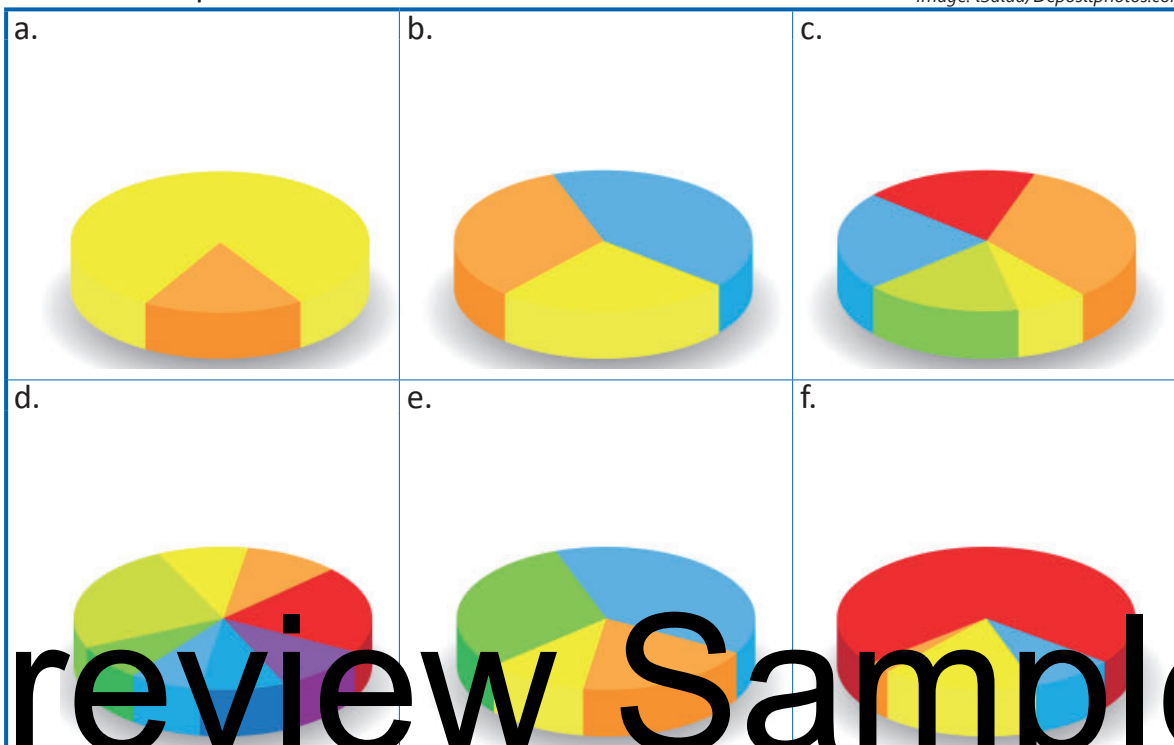
b. Answer the following questions by identifying the most likely pie chart, together with a brief explanation of the reason for your choice.

| i. Which pie chart could be showing the response to a yes/no survey? What might be the question?	ii. Which pie chart has its largest portion of about 2/3? What might its 4 survey questions be?	iii. Which pie chart shows 2 large equal pieces and 6 small equal pieces. Estimate these percentages.
iv. Which pie chart might represent a 'good', 'average', 'poor' rating? Estimate the percentages and suggest a context.	v. Which pie chart has 5 portions? Estimate the percentages. How might this represent the post-Year 12 destinations of a VM class?	vi. Describe what is shown by the remaining pie. Estimate the percentages.

Advanced & Applied

a. Use the **information** shown on the **pie chart** to comment on whether each of the following statements is true or false. Give reasons for your answer.

Favourite Japanese car maker: April 2024

Image: DmitryRukhlenko/ Depositphotos.com

25%

33%

13%

19%   10%
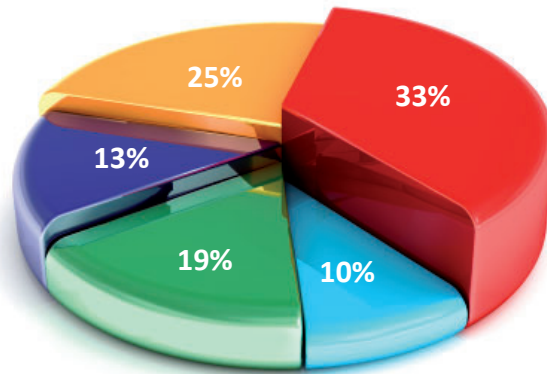
	Nissan	33%
	Mazda	19%
	Toyota	25%
	Subaru	10%
	Other	13%

⇨ Nissan was the most popular Japanese car maker for the people surveyed.

⇨ More than half preferred Nissan and Mazda compared to other makers.

⇨ Added together, more respondents preferred Toyota and Mazda, than Nissan.

⇨ Over 10% preferred makers other than the 4 featured in the survey.

⇨ Subaru was the least popular of any maker featured in the survey.

Complete a pie chart for the same information based on a survey of students in your class. Write 5 clear statements that describe the data and information.

11 Line Graphs

Skills Development

a. Complete this **table** based on the information from the **line graph**.

Monthly income earned: March - July 2024

$
- 1,000
- 900
- 800
- 700
- 600
- 500
- 400
- 300
- 200
- 100

Mar   Apr   May   Jun   Jul
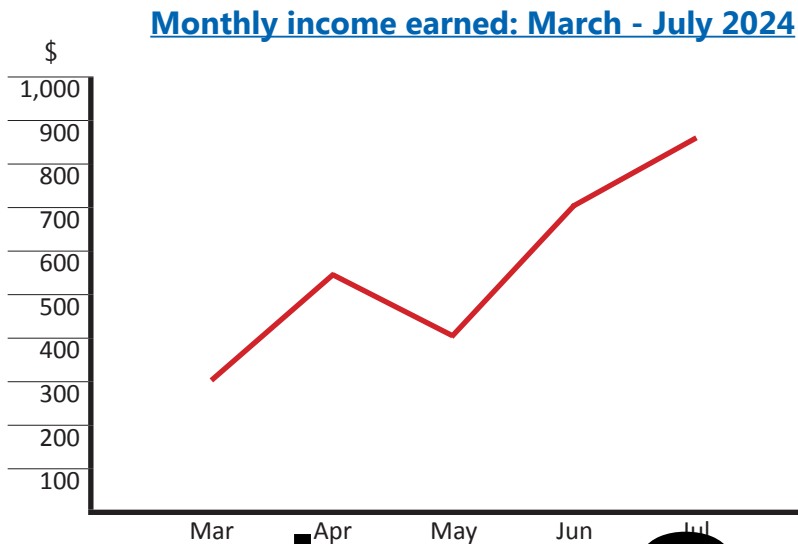
Income: March - July 2024	
Month	Amount
March	$300
April	
May	
June	
July	
Total	$

b. Answer the following questions using the **information** from the **graph** shown above, <u>Monthly income earned: March - July 2024</u>. Support your answer with evidence from the line graph.

⇨ In which month was the highest income amount earned?

⇨ In which month was the lowest income amount earned?

⇨ How much was earned by the worker over the 5 months?

⇨ How much was the difference between the lowest monthly amount and the highest?

⇨ Is the worker more or less likely to earn over $500 per month?

⇨ What is the overall trend indicated by the graph?

Advanced & Applied

a. Use the **information** shown on the **line graph** to comment on whether each of the following statements is true or false. Give reasons for your answer.

Weekly exercise measured in hours

hours

Week 1   Week 2   Week 3   Week 4   Week 5
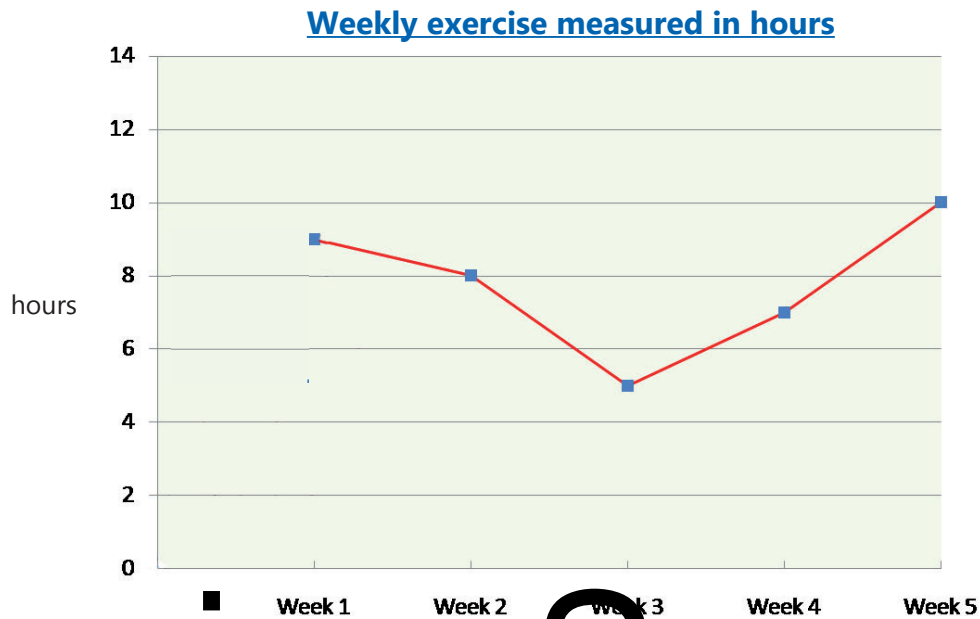
⇨ The most exercise done was in Week 1.

⇨ The least exercise done was in Week 4.
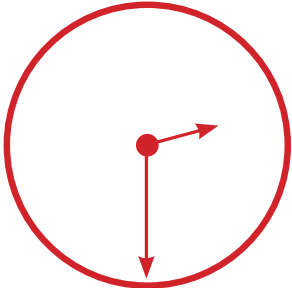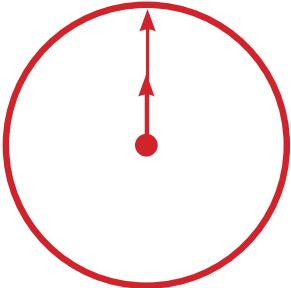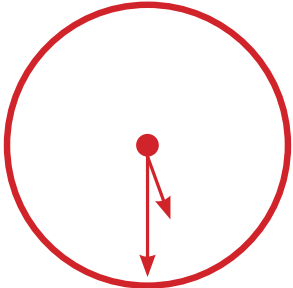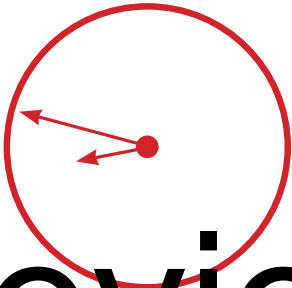
⇨ The overall trend for exercise done is upwards.

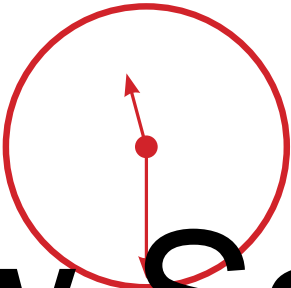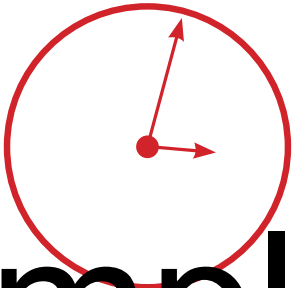⇨ About 40 hours of exercise was completed over the 5 weeks.

b. Complete a line graph for similar information based on your own personal experiences. Write 4 clear statements that describe the data and information.
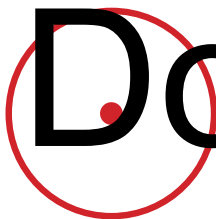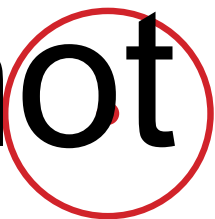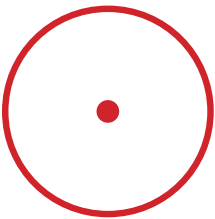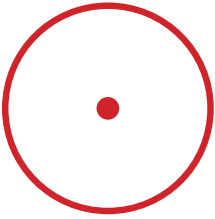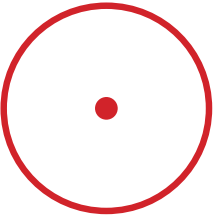
Skills Development

a. Show the **time** indicated by each of the analogue clockfaces.

a.	b.	c.
d.	e.	f.

b. Indicate each of these **times** on an analogue clockface.

a. 7:00pm	b. 6:00am	c. 11:30
d. 4:45	e. 2:15	f. 6:55
g. 9:10	h. 11:45	i. 2:22

Advanced

Write these **times** from the clockface using **digital** time (with am/pm) and using a **24-hour** clock display. However, there's also something not quite right about these shown times. Things seem a 'little' bit off. Can you find the issues?

| a. night | b. morning | c. morning | d. night |
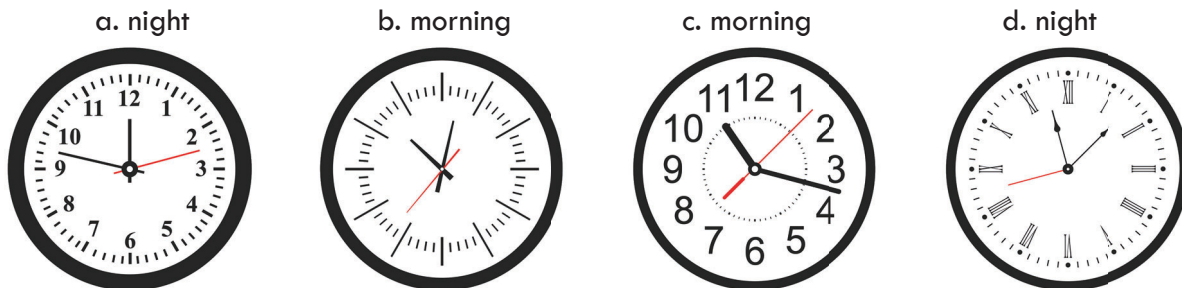
*Image: Volykievgenii/
Depositphotos.com*

| e. night | f. morning | g. morning | h. night |
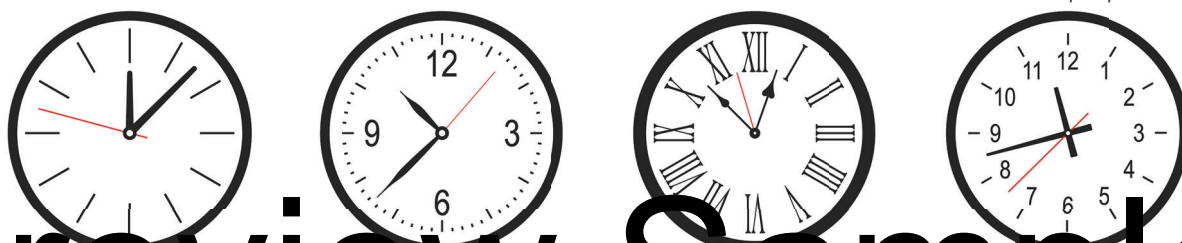
a.	b.	c.	d.
e.	f.	g.	h.

Applied
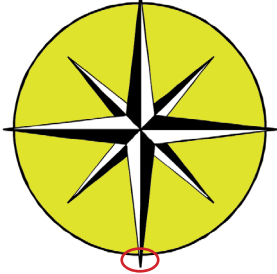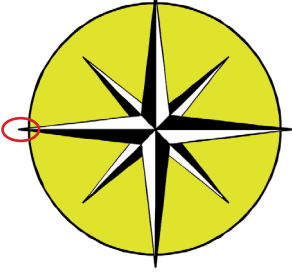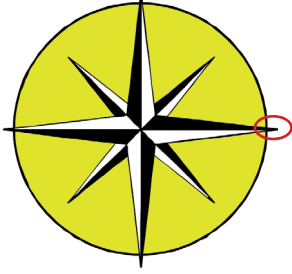
You are booked on a flight to Japan. The flight time is 07:30. What time would you have to leave to go to the airport? Think carefully about this.

13 Directions and Location

Skills Development
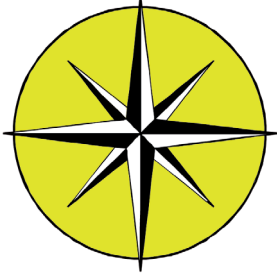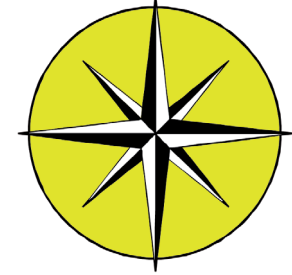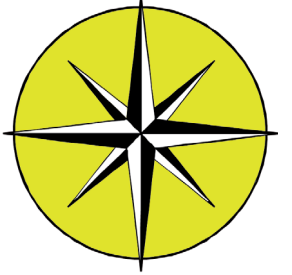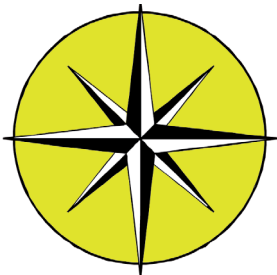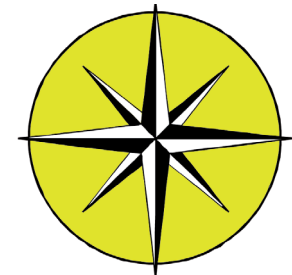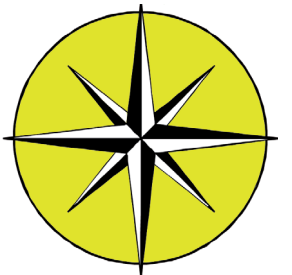
a. What are the following **directions** as shown on the compass?

a.	b.	c.
d.	e.	f.

b. Indicate the following **directions** on the compass.

a. West	b. North	c. North East
d. South West	e. South East	f. North West

Advanced & Applied

Describe the **relative location** of key features shown in this cross-section image of a house. You could use left, right, next to, behind, up, down, etc..

Aim for a description of at least 12 features from the image such as the rooms, people and key objects within the rooms.

Have a go at creating and describing a similar image based on your dream house.

Image elenabs/ Depositphotos.com

14 Angles

Skills Development

a. Compasses and analogue clockfaces show **360⁰** (degrees). Answer these questions about these **angles** on a compass and a clockface.

a. What angle is north?	b. What angle is south?	c. What angle is west?
d. What angle is east?	e. What angle is north-east?	f. What angle is south-west?
g. What direction is at 45⁰?	h. What direction is at 225⁰?	i. What direction is at 135⁰?
j. On a clockface at what angle is '12'?	k. On a clockface at what angle is '6'?	l. On a clockface at what angle is '9'?
m. On a clockface at what angle is '3'?	n. On a clockface at what angle is '10'?	o. On a clockface at what angle is '2'?
p. How many rotations is a 180⁰?	q. How many rotations is a 540⁰?	r. How many rotations is a 720⁰?

Advanced

Label the **angles** within these shapes with the correct amount of **degrees**.
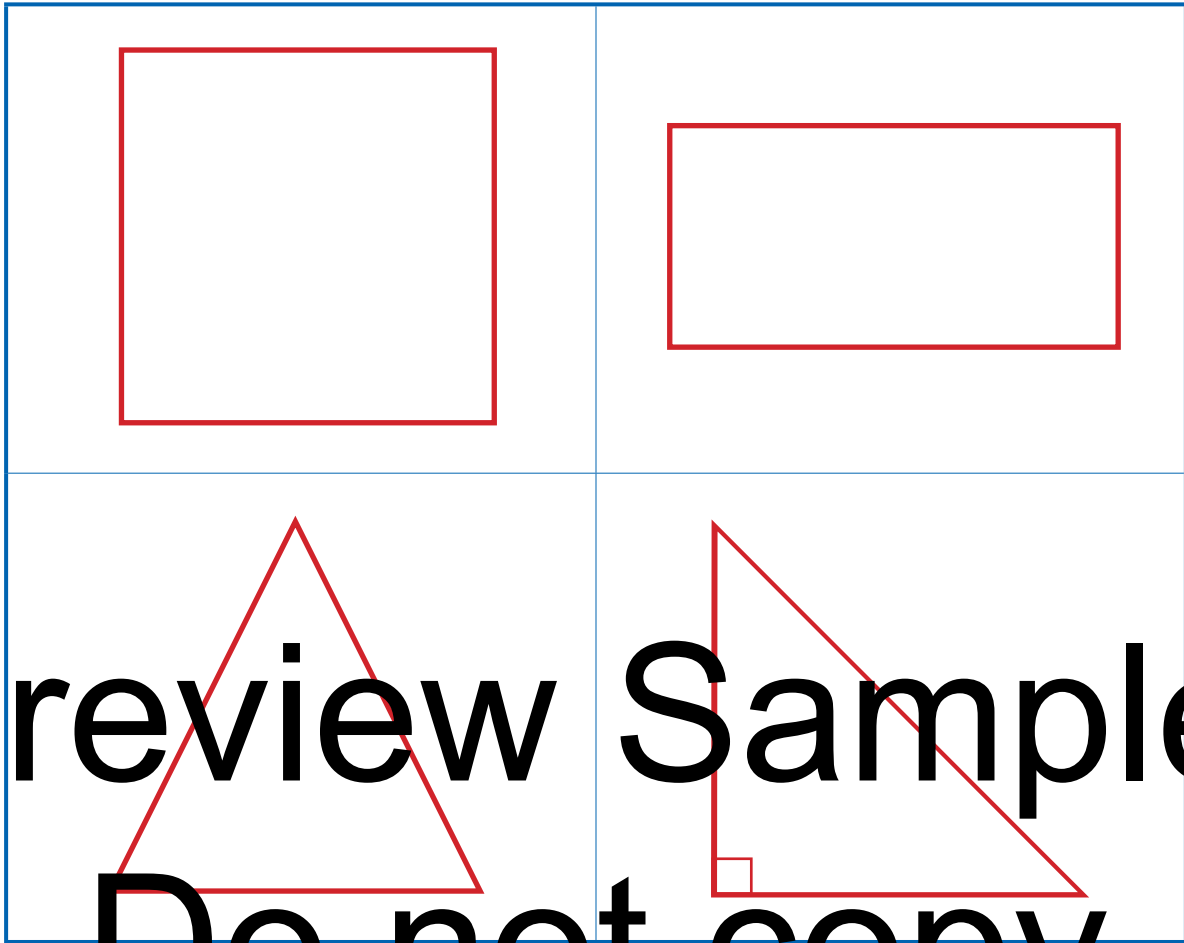
Applied

Explain the importance of angles when driving or riding. Consider: Steering, intersections, visibility, turning, parking and gradients.

Skills Development

Calculate each of these **money totals**. Make sure that you show appropriate workings out.

a. $3.50 + $2 =	b. $18 + $4.50 =	c. $8.75 + $3.50 =
d. $14 + $2 + $17 =	e. $18 + $25 + $9.50 =	f. $24 + $99 + $37.50 =
g. $12.50 - $11 =	h. $18 - $7.10 =	i. $9.45 - $5.25=
j. 22.50 $ .75 =	k. $9.95 $ 0.50 =	l. $1 2. 0 - $2 .70 =
m. $3.50 x 8 =	n. $24 / 6 =	o. $1,000 x 20 =
p. $225 + $2.50 - $75 =	q. $10,000 - $900 + $100 =	r. $96 + $96 - $192 + $1 =

Advanced

Calculate the **money total** for each of these situations.

a. You spend $9.50 every day. How much per week, per month and per year?	b. You save $80 a week for 25 weeks and then $90 a week for 15 weeks. Total savings?	c. A customer orders 24 cans at $2.50, 30 loaves at $4.50 and 10kg of snags at $5.50/kg. Total price?
d. A client pays $850 in fees for each of 4 jobs, and then $650 in fees for each of 6 more jobs. Total fees?	e. An e-bike shop has 12 bikes at $2,200, 7 bikes @ $1,800 and 15 bikes @ $1,500. It just sold 1 of the mid-priced bikes. Total stock value?	f. After a day selling at the local swap meet, you have 12 x $20s, 9 x $10s, 6 x $5s, 32 x $2s, 18 x $1s and $9.75 in silver. Total?

Applied

a. You go to buy dinner for the family. 2 pieces of flake, 1 piece of whiting, 4 potato cakes, 3 steamed dim sims, 1 pickled onion, minimum of chips and a 2l bottle of soft drink. How much?

b. Stav has these annual costs for their car. Insurance $1,500, rego $900, new tyres $550, 2 services @ $480 and petrol at an average of $2 a litre for 100 litres each of 50 weeks. Total Stav's vehicle costs for the year; and the average per month and per week. What are some other likely costs?

Skills Development

Calculate the **exact change** for each of these transactions. List the c**urrency units** you would use to make the change.

a. Purchase of $9.50 Given $10	b. Purchase of $12.60 Given $20	c. Purchase of $29.75 Given $50
d. Purchase of $36.75 Given $100	e. Purchase of $7.25 Given $10	f. Purchase of $17.75 Given $20
g. Purchase of $25.50 Given 3 x $10s	h. Purchase of $19.30 Given 9 x $2s & 2 x $1s	i. Purchase of $92.50 Given $50 & 5 x $10s
j. Purchase of $38 Given 3 x $10s & 2 x $5s	k. Purchase of $68.75 Given a $50 & $20.	l. Purchase of $80.50 Given a $100 and 50c
m. Purchase of $72 Given a $50 & $20 & $5	n. Purchase of $188.95 Given a $100 & $50 & 2 x $20s	o. Purchase of $75.20 Given 4 x $20s

Advanced

Calculate the **money total** for each of these situations. Make sure that you show appropriate workings out.

a. Sal went shopping and bought 7 items, each costing $14.25. How much change is left from $100?	b. Mo is buying snacks for his friends. He bought 15 bags of chips at $4 each and 8 cans of soft drink at $2 each. How much change is left from $80?	c. Marz spent $25 on 4 items, $15 on 3 items, $10 on 2 items, and $5 on 1 item. How much change is left from $200?
d. How much change do you give after diners split their $320 bill 8 ways? Each pays with a fifty.	e. What change is left from $20 after 8 purchases of $1.20, 10 of $0.55, 3 of 70c and 7 of 40c?	f. Customer is to be given change of $23 but you haven't any notes left.
g. You buy 2 pies at $4.99 each. You don't get any change from $10. Why not?	h. You have already spent $9 of your $10, so what can you get from the milk bar after school?	i. Customer buys 2 pairs of jeans at $94.95. How much change from a $100 note?

Applied

You're working at a café. Customers usually pay digitally, but today the card payment system is offline. You have to manually process transactions and accept cash payments. Here's the price list: Regular: $3.50, Latte: $6, Cappuccino: $6.50, Espresso: $5, Mocha: $7.50.

Calculate each customer's total bill. What (cash) currency units will you be expecting to receive when each pays?

⇨ Mixie orders a regular and a latte.

⇨ Pixie orders two cappuccinos.

⇨ Dixie orders an espresso and a mocha.

⇨ Rikxy orders a latte and a regular.

⇨ Ana orders a cappuccino and an espresso.

Skills Development

Calculate the **discount amount** and the **amount after discount** for each of these situations.

a. Purchase of $25 less 10% discount.	b. Purchase of $100 less 15% discount.	c. Purchase of $250 less 20% discount.
d. Purchase of $49.50 less 10% discount.	e. Purchase of $1,000 less 18% discount.	f. Purchase of $99.95 less 5% discount.
g. Purchases of $15 and $30 less 10% discount.	h. Purchases of $55 and $50 less 15% discount.	i. Purchases of $99 and $54 less 12.5% discount.
j. Buy 3 @ $12.50 10% of the third.	j. Buy 5 @ $50 25% off the fifth.	j. Buy 75 @ $2 10% off the amount over $100.
m. Purchase of $50, $30, $35. 10% off lowest item.	m. Purchase of $80, $40, $30. 15% off lowest item.	n. Purchase of $50, $75, $100. 10% off lowest item, 5% off highest.

Advanced

Estimate these **price comparisons** then find out how correct you were.

a. An iceberg lettuce vs 1kg of truss tomatoes?	b. A cabbage vs a cauliflower?	c. An avocado vs a cucumber?
d. Vegemite vs Nutella?	e. Canned tuna vs canned salmon?	f. Baked beans vs kidney beans?
g. Meat sausages vs vegie sausages? (per sausage)	h. Olive oil vs canola oil?	i. Coco Pops vs Nutri-Grain?
j. An orange vs a banana vs an apple?	k. A Chomp vs a Freddo Frog vs a Bertie Beetle?	l. Coke vs Pepsi Max vs bottled water?

Applied

Many points-based loyalty cards aren't all they're cracked up to be. The big supermarket ones equate to half a percent of your spend (excluding special offers). But other retailers might offer every 10th coffee free (which equates to 10%) or even every 5th purchase free (which is 20%).

Pair up and find out loyalty and other discount rewards on offer. Report back to the class and develop a databank of how you can all make some savings on everyday purchases.

18 Pay

Skills Development

Calculate the **total pay** for each of these people.

a. Al works 30 hours @ $16.	b. Bo works 40 hours @ $35.	c. Cy works 50 hours @ $25.
d. Di works 11 hours @ $17.50	e. Ef works 34 hours @ $22.	f. Fi works 38 hours @ $29.50.
g. Gi works 20 hours @ $25 and 10 hours @ $18.	h. Hu works 40 hours @ $25 and 16 hours @ $50.	i. Il works 8 hours @ $72 and 8 hours @ $8.
j. Jy gets $5 per delivery and makes 6 deliveries.	k. Ka gets $4 per sale and makes 22 sales.	l. Li gets $12.55 per order and processes 21 orders.
m. Mo gets $5 per delivery, does 6 deliveries per hour and works 7 hours.	n. Na gets $5 per sale and makes 20 sales a day for 5 days.	o. Ol gets $7.50 per order and processes 3 orders per hour over 10 hours.

Advanced

Calculate the **total pay** for each of these people.

a. Pa earns $25 per hour plus 50% for overtime. Pa works 38 hours plus 8 hours overtime.	b. Qi gets $16 per hour and works 25 hours per week for 20 weeks.	c. Ro gets $27 per hour and works a standard working week for the whole year.
d. Sy is paid 55% of the adult rate, which is $35, and works a 38-hour week.	e. Te is paid 90% of the adult rate, which is $30 and works a 30-hour week.	f. Uv gets a salary of $156K per year. How much per week, and per hour, based on 40-hour weeks?

Applied

If you got a full-time job next year at one of the big supermarkets or fast food chains, how much would you be paid per hour?

Would you be entitled to be paid penalty rates? If so, how much and for when?

How could you find out? Who could you ask? Where could you search online?

19 Rosters & Timesheets

Skills Development

a. Complete a **roster** for each of the workers based on the following information. If you show this on the same roster template you could use different colours.

Albert	Albertina
Mon: 8.30am - 5.30pm	Mon: 8.30am - 5.30pm
Tues: 8.30am - 5.30pm	Tues: 8.30am - 12.30pm
Wed: 11.30am - 7.30pm	Wed: Off
Thur: Off	Thur: 11.30am - 7.30pm
Fri: 9am - 9pm	Fri: 8am - 1.30pm
Sat: 11am - 6pm	Sat: Off
Sun: 11am - 3.30pm	Sun: 9am - 6pm

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00							
9:00							
10:00							
11:00							
12:00							
13:00							
14:00							
15:00							
16:00							
17:00							
18:00							
19:00							
20:00							

b. Calculate the **hours 'at work'** for each worker for the week. How many hours 'at work' does each average per day?

Albert	Albertina

Advanced & Applied

Complete **timesheets** for Albert and for Albertina based on the information in 'a'. Albert (aged 18) is paid $20 an hour and Albertina (an adult) is paid $25 an hour. Workers get a 1-hour unpaid break if they work more than 5 hours in a shift.

Name:							
	Date	Start	Finish	Break	Hours Worked	Rate	Total
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Sunday							
Totals							

Name:							
	Date	Start	Finish	Break	Hours Worked	Rate	Total
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Sunday							
Totals							

20 Budgets

Skills Development

a. Calculate the following **budget results**.

a. Income: $1,000 Expenses: $450	b. Income: $1,800 Expenses: $1,400 + $385	c. Income: $2,500 Expenses: $450 x 5
d. Income: $500 x 20 Expenses: $200 x 50	e. Income: $5030 Expenses: $1,780 + $3,620	f. Income: $5m Expenses: $2m + $1.5m + $1m + $0.5m

b. Complete budgets based on the following information.

a. 1-week budget	b. 4-week budget
Income: Wages $1,000 Expenses: Rent $400 Food $180 Bills $150 Petrol $50 Other $30	Income: $1,000 a week Expenses: Rent $300 a week Food $200 a fortnight Bills $150 a week Travel $50 a week Phone $100 for 4 weeks Internet $80 for 4 weeks Other $100 a week

Advanced

Use your numerical skills to answer each of these **budget-related** questions.

a. If a budget is in deficit $80 every week, what will be the total deficit for the year?	b. If revenue exceeds expenses by $40 every fortnight, how much will the budget be in surplus for the year?	c. If revenue is 10% more than expenses, and expenses are $550 per month, then how much is revenue per month?
d. Wages = $300 per week. Expenses $640 per fortnight. What is the budget result for the year?	e. If a budget is expected to be a deficit of $5,200 for the year, how much less needs to be spent per week to make it balance?	f. Is this correct? You should overestimate revenue because it's money in and underestimate expenses because that's money out.

Preview Sample: Do not copy

Applied

Preparing a budget is a great way to help you save for the future in order to reach a savings goal, such as saving up to buy a new phone, or a car, or for a holiday.

a. Prepare a budget that shows your current financial situation and your revenue and expenditure patterns.

b. Estimate how much money you will need to save to reach your longer-term savings goal. Also estimate how long that may take.

c. Use your budget to forecast your likelihood of achieving this savings goal.

d. Identify revenue and expenditure areas from your budget that you can change, so as to better help you reach your savings goal.

e. Re-calculate your budget reflecting these changes.

f. Report on how much more likely you are now going to be able to reach your savings goal.

Skills Development

a. Arrange these figures in the **table** from **lowest** to **highest**.

215,695	5,256,300	412,698	212,541	42, 500
526,500	5,690	34,146,500	36	1,500
2,123,650	7,123	2,350	2,365	2,568
4,568,452	21	253	2,145	978,526
325	45	212,512	12,365,425	21,352,200
6,412	5,669,787	2,151,200	25,458	62,550

b. The new digital system in a bakery prints out daily sales as below, but it isn't very user-friendly. Enter this information into a **table** to make it more usable.

Muffins, 20, $4.50	Scones, 25, $2.50	Bread loaves, 10, $5.00
Croissants, 30, $2.75	Danish pastries, 40, $3.25	Cupcakes, 45, $2.00
Bagels, 15, $1.25	Donuts, 35, $2.50	Fruit pies, 12, $6.50
Cinnamon rolls, 18, $3.00	Cookies, 50, $1.00	Vanilla slices, 20, $7.25

Totals			

Advanced & Applied

Create a **spreadsheet** to calculate averages and totals for the bakery items below.

Enter the information in the appropriate cells and then create and enter the appropriate **formulae** in the final column and the bottom row.

When finished set up a spreadsheet and see how you go.

Turkey, 20, $6.50
Cheese & tomato, 25, $5.75
Salad wrap, 15, $4.75
Tuna salad, 18, $6.25
Chicken wrap, 20, $7.00
BLT, 25, $5.50
Swiss cheese, 30, $5.25

Roast beef, 20, $7.25
Vegie panini, 15, $6.75
Club sandwich, 18, $8.00
Curried egg, 20, $5.25
Vegemite, 8, $3.50
Cheese & pickle, 15, $4.75
Ham, cheese & tomato, 42, $5.50

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16	**Totals**			

Skills Development

Calculate the following **lengths** in the most **appropriate unit**. Make sure that you show appropriate workings out.

a. How many centimetres (cm) in a metre (m)?	**b.** How many cm in 2 m?	**c.** How many cm in 4.2 m?
d. How many millimetres (mm) in a centimetre (cm)?	**e.** How many mm in 75 cm?	**f.** How many mm in 150 cm?
g. How many millimetres in a metre (m)?	**h.** How many mm in 1.5 m?	**i.** How many mm in 4.8 m?
j. 15 cm + 32 cm =	**k.** 150 cm + 90 mm =	**l.** 2,048 mm - 100 cm =
m. 3 metres + 50 cm =	**n.** How many metres (m) in a kilometre (km)?	**o.** 8 km + 4,500 m =

Advanced

Calculate the following **lengths** in the most **appropriate unit**. Make sure that you show appropriate workings out.

a. 8 x 2 m + 70 cm =	b. 4 x 8 m - 400 cm =	c. 9 x 2 cm + 55 mm =
d. 18 x 8 m - 2000 cm =	e. 12 m ÷ 3 + 500 mm =	f. 40 x 4 cm - 4 x 04 m =
g. Total length?	h. Total length?	i. Total length?

g. 3 m

h. 8 m

i. 2 m ... 3 m

5 m

Applied

How much distance do you 'move' by walking, wheeling, jogging, running, cycling, etc. in a week? Calculate the total distance. Is that enough to maintain a healthy lifestyle? Do some research and find out.
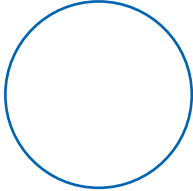
Skills Development
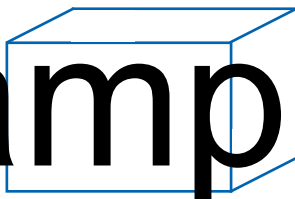
Calculate the following **measurements** in the correct **units** using the information provided. Make sure that you show appropriate workings out.

a. Perimeter of a square: 5cm	b. Perimeter of a rectangle: 18cm by 12cm	c. Perimeter of a rectangle: 15cm x 25cm
d. Perimeter of a rectangle: 3m by 1.5m	e. Circumference of circle: Diameter = 16cm	f. Circumference of circle: Radius = 12cm
g. Area of a square: 5cm	h. Area of a square: 150mm	i. Area of a rectangle: 50cm x 20cm
j. Area of a rectangle: 3m x 00 mm	k. Area of a circle: Diameter = 30cm	l. Area of a circle: Radius = 2m
k. Area of a right-angled triangle base = 10cm h = 15cm	l. Volume of a square 5cm	m. Volume of a cube 9cm
n. Volume of a rectangle: 5cm x 10cm x 20cm	o. Volume of a rectangle: 15cm x 5cm x 20cm	p. Volume of a rectangle: 1m x 0.5m x 2m

Advanced

Measure each of these **shapes** and then **calculate** the appropriate measurements.
Scale each object by a **factor of 2** and then by **3** and then re-calculate.

a. Perimeter	b. Circumference	c. Area
d. Perimeter	e. Area	f. Volume

Preview Sample: Do not copy

Applied

You have prepared a dozen homemade cookies for a fundraiser event. However, you need to package them nicely for sale. You have $10 left in your budget after buying all the ingredients. Each cookie is a circle with a diameter of 5 cm and a height of 2 cm.

At the local bakery supply store, you find two options for packaging:

- A box with dimensions 11 cm by 11 cm and a height of 5 cm, priced at $4.
- A box with dimensions 16 cm by 16 cm and a height of 7 cm, priced at $6.50.

Additionally, you can buy wrapping paper from the nearby stationery shop:

- A 0.5 m roll of wrapping paper that is 5 meters long, priced at $2.50.
- A 0.5 m roll of wrapping paper that is 3 meters long, priced at $2.00.

Draw a diagram to illustrate the cookies and the boxes. Which combination of box and wrapping paper would you choose, and why? Provide calculations to justify your decision.

24 Weight (Mass)

Skills Development

Calculate the following **weights (mass)** in the most appropriate **unit**. Make sure that you show appropriate workings out.

a. How many grams (g) in a kilogram (kg)?	b. How many grams in 8 kg?	c. How many grams in 6.5 kg?
d. How many g in 1/4 kg?	e. 0.9 kg + 1.5 kg =	f. 0.45 kg + 1 kg + 300 g =
g. x 0. kg =	h. kg ÷ 25	i. 24 x 1.15
j. 10 kg - 3 kg - 500 g =	k. 2 kg + 3 x 2 kg =	l. (250 g x 5) + 2 x 1.5 kg =
m. How many kg in a tonne?	n. How many kg in 10 tonnes?	o. How many kg in 3.8 tonnes?

Advanced

Calculate the following **weights (mass)** in the most appropriate **unit**.

a. Ellie doesn't have weights at home, she uses water bottles. She does bicep curls with two 1.5-litre water bottles, each filled with water weighing 1.5 kg. If she curls each arm 50 times, what is the total weight lifted?	b. A restaurant sells 30 servings of pasta, each weighing 300 grams, 50 servings of steak @250 grams, and 20 servings of fish @ 400 grams. What is the total weight of the food sold?	c. If a family car weighs 1,500 kg and the average weight of a family member is 75 kg, how many family members would it take to equal the weight of the car?
d. Dan loads his delivery van with 10 parcels weighing 25 kg each, 15 parcels @ 12 kg each, and 20 parcels @ 30 kg each. What is the total weight of the parcels?	e. Sara consumes 500g of vegetables per week, twice that weight in fruit, and 4 times the combined weight of fruit and vegetables in grains. What is the total weight of Sara's weekly intake?	f. What would be the total weight of an NRL team compared to an AFL team and to a soccer team? What is the average per player?

Applied

You and 3 friends are going on a bushwalking and camping trip for 5 days and 4 nights. You'll likely cover at least 10km a day.

a. Where might you be going?

b. What weight can you handle? Find out types of backpacks that might suit this trip.

c. What will you take with you? Why?

d. What process would you use to ensure that your items are as light as possible?

e. What about the shared camping gear from the group? Who carries this and what weight?

f. What other items might you need to include, including safety gear?

Skills Development

Complete answers for the following based on **fluid capacity.** Make sure that you show appropriate workings out.

a. How many millilitres (ml) in a litre?	b. How many ml in 2 litres?	c. How many ml in 4.75 litres?
d. How many ml in 1/4 litre?	e. 0.5 litre + 1.8 litre =	f. 0.2 litre + 1 litre + 750 ml =
g. 16 x 0.5 litres =	h. 10 litres ÷ 5	i. 24 x 375 ml
j. 10 litres minus 7.5 litres =	k. 5 litres + 3 x 2 litres =	l. (300 ml x 6) + 3 x 1 litre =
m. How many cubic centimetres in a litre?	n. How many litres in 1/2 a megalitre?	o. How many litres in a megalitre?

Advanced

a. Complete answers for the following based on **cooking fluid capacity**.

a. How many ml in a teaspoon?	b. How many ml in a tablespoon?	c. How many ml in a cup?
d. How many ml in 10 teaspoons?	e. How many ml in 3 and a half tablespoons?	f. How many ml in 2.5 cups?
g. How many ml in 3 teaspoons, 5 tablespoons and 3 cups?	h. How many ml in 8 teaspoons, 1 tablespoon and 1.5 litres?	i. How many ml in 20 tablespoons and 6 cups?

b. Complete answers for the following based on **volume**. Note volume is height x width x depth and is shown in cm^3 or m^3

a. Volume of a package: 30cm x 20 cm x 3 cm	b. Volume of a carton: 40 cm x 35 cm x 25 cm	c. Volume of a box: 1.5 m x 2 m x 0.25 m

Applied

Which has more ml? 24 cans of soft drink, 6 x 2 litres bottles, or 20 x 500 ml cups. What is the total volume of each in ml and in litres? Which would be cheapest?

Skills Development

Complete the following problems based on **likelihood**.

a. 1 in 2 chance in percentage?	b. 1 in 8 chance in percentage?	c. 1 in 100 chance in percentage?
d. 10 in 100 chance in percentage?	e. 75 in 100 chance in percentage?	f. 2 in 4 chance in percentage?
g. 50%: What are the odds?	h. 33%: What are the odds?	i. 75%: What are the odds?
j. 20%: What are the odds?	k. 15%: What are the odds?	l. 30%: What are the odds?
m. What is the percentage likelihood of 3 out of 5?	n. What is the percentage likelihood of 1 out of 8?	o. What is the percentage likelihood of 1 out of 100?
p. Likelihood of a head?	q. Likelihood of a tail?	r. Likelihood of 3 heads in a row?
s. Likelihood of a red card from a deck?	t. Likelihood of a heart card from a deck?	u. Likelihood of a Jack from a deck?

Advanced

Complete the following situations based on **likelihood**.

a. Which is a better chance? 1 in 2 or 3 in 5	b. Which is a better chance? 6 in 8 or 2 in 5	c. Which is a better chance? 33% or 1 in 4
c. Which is the more likely outcome? "Fifty/fifty" or "one in four".	d. Which is the more likely outcome? "About even" or "seventy-five per cent".	e. Which is the more likely outcome? "One in every hundred" or "one in every thousand".
f. Rank these in order of likelihood. 33%, 50/50, 1 in 2, less than a third.	g. Rank these in order of likelihood. 92%, 9.2%, 3/9, 1 in ninety.	h. Rank these in order of likelihood. 67%, almost always, barely, 50/50.
i. Is this more likely or less likely to happen? Estimate a %. "Buckley's!"	j. Is this more likely or less likely to happen? Estimate a %. "Better than evens."	k. Is this more likely or less likely to happen? Estimate a %. "A dead set certainty!"

Applied

Often life is about managing risk. But you should always remember that higher rewards = higher risk. Think very carefully before answering this statement.

What are the actions that you can take to manage and minimise risk when travelling in, or driving and riding motor vehicles, including e-scooters.

Reflection and Review

Complete this journal to reflect on your development of Numeracy Skills.

Journal of: _____ Date: _____

⇨ What did I most enjoy during this year as part of my Numeracy studies?

⇨ What major numeracy skills and tools did I develop and apply?

⇨ How did I use and apply what I learned for my personal and social activities?

⇨ How did I use and apply what I learned in my work-related activities?

⇨ What might be the most important things for me to focus on next, and why?

⇨ What other information can I share and/or how would I summarise my experiences?