

NUMERACY

Skills Development Portfolio

VPC

1&2

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VCE: VM units 1&2: From 2023

- ⇒ Literacy VM 1&2: Coursebook & Applied Vocational Booklet
- ⇒ Numeracy VM 1&2: Coursebook & Skills Development Portfolio
- ⇒ Personal Development VM 1&2: Coursebook & Applied Vocational Booklet
- ⇒ Work Related Skills VM 1&2: Coursebook & Applied Vocational Booklet

VPC Units 1&2: From 2023

- ⇒ Literacy VPC 1&2 : Coursebook & Applied Vocational Booklet
- ⇒ Numeracy VPC 1&2: Coursebook & Skills Development Portfolio
- ⇒ Personal Development VPC 1&2: Coursebook & Applied Vocational Booklet
- ⇒ Work Related Skills VPC 1&2: Coursebook & Applied Vocational Booklet

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VCE: VM units 3&4: From 2024

- ⇒ Literacy VM 3&4: Coursebook & Applied Vocational Booklet
- ⇒ Numeracy VM 3&4: Coursebook & Skills Development Portfolio
- ⇒ Personal Development VM 3&4: Coursebook & Applied Vocational Booklet
- ⇒ Work Related Skills VM 3&4: Coursebook & Applied Vocational Booklet

VPC Units 3&4: From 2024

- ⇒ Literacy VPC 3&4 : Coursebook & Applied Vocational Booklet
- ⇒ Work Related Skills VPC 3&4: Coursebook & Applied Vocational Booklet

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NUMERACY VPC 1&2: SKILLS DEVELOPMENT PORTFOLIO

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Progress Record

Topic	Skills Development			Advanced			Applied		
	Done?	Date	p.	Done?	Date	p.	Done?	Date	p.
1 Addition	<input type="checkbox"/>	<input type="text"/>	2	<input type="checkbox"/>	<input type="text"/>	3	<input type="checkbox"/>	<input type="text"/>	3
2 Subtraction	<input type="checkbox"/>	<input type="text"/>	4	<input type="checkbox"/>	<input type="text"/>	5	<input type="checkbox"/>	<input type="text"/>	5
3 Addition and Subtraction	<input type="checkbox"/>	<input type="text"/>	6	<input type="checkbox"/>	<input type="text"/>	7	<input type="checkbox"/>	<input type="text"/>	8-9
4 Time	<input type="checkbox"/>	<input type="text"/>	10	<input type="checkbox"/>	<input type="text"/>	11	<input type="checkbox"/>	<input type="text"/>	11
5 Calculating Time	<input type="checkbox"/>	<input type="text"/>	12	<input type="checkbox"/>	<input type="text"/>	13	<input type="checkbox"/>	<input type="text"/>	13
6 Directions and Location	<input type="checkbox"/>	<input type="text"/>	14	<input type="checkbox"/>	<input type="text"/>	15	<input type="checkbox"/>	<input type="text"/>	15
7 It Takes Time	<input type="checkbox"/>	<input type="text"/>	16	<input type="checkbox"/>	<input type="text"/>	17	<input type="checkbox"/>	<input type="text"/>	17
8 Money	<input type="checkbox"/>	<input type="text"/>	18	<input type="checkbox"/>	<input type="text"/>	19	<input type="checkbox"/>	<input type="text"/>	19
9 Making Change	<input type="checkbox"/>	<input type="text"/>	20	<input type="checkbox"/>	<input type="text"/>	21	<input type="checkbox"/>	<input type="text"/>	22
10 Percentages and Fractions	<input type="checkbox"/>	<input type="text"/>	22	<input type="checkbox"/>	<input type="text"/>	22	<input type="checkbox"/>	<input type="text"/>	23
11 Multiplication	<input type="checkbox"/>	<input type="text"/>	24	<input type="checkbox"/>	<input type="text"/>	25	<input type="checkbox"/>	<input type="text"/>	25
12 Order of Operations	<input type="checkbox"/>	<input type="text"/>	26	<input type="checkbox"/>	<input type="text"/>	27	<input type="checkbox"/>	<input type="text"/>	27
13 Pay	<input type="checkbox"/>	<input type="text"/>	28	<input type="checkbox"/>	<input type="text"/>	29	<input type="checkbox"/>	<input type="text"/>	29

FULL PREVIEW
SAMPLE

Progress Record

Topic	Skills Development			Advanced			Applied		
	Done?	Date	p.	Done?	Date	p.	Done?	Date	p.
14 Rosters and Timesheets	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	30	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	31	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	31
15 Budgets	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	32	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	33	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	33
16 Estimating	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	34	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	35	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	35
17 Length and Distance	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	36	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	37	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	37
18 Measurements	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	38	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	39	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	39
19 Weight (Mass)	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	40	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	41	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	41
20 Capacity	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	42	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	43	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	43
21 Division	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	44	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	45	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	45
22 Data and Information	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	46	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	47	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	47
23 Bar Graphs	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	48	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	49	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	49
24 Pie Charts	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	50	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	51	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	51
25 Line Graphs	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	52	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	53	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	53
26 Likelihood	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	54	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	55	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	<input style="width: 40px; height: 25px; border: 1px solid #ccc;" type="text"/>	55

FULL PREVIEW
SAMPLE

1 Addition

Skills Development

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

a. $6 + 27 =$	b. $14 + 9 =$	c. $\begin{array}{r} 6 \\ + 42 \\ \hline \end{array}$	d. $\begin{array}{r} 5 \\ + 42 \\ \hline \end{array}$
e. $24 + 68 =$	f. $54 + 93 =$	g. $\begin{array}{r} 13 \\ + 55 \\ \hline \end{array}$	h. $\begin{array}{r} 25 \\ + 85 \\ \hline \end{array}$
i. $19 + 97 =$	j. $36 + 147 =$	k. $\begin{array}{r} 10 \\ + 17 \\ \hline \end{array}$	l. $\begin{array}{r} 25 \\ + 185 \\ \hline \end{array}$
m. $7 + 9 + 6 =$	n. $7 + 36 + 52 =$	o. $\begin{array}{r} 16 \\ 25 \\ + 42 \\ \hline \end{array}$	p. $\begin{array}{r} 9 \\ 34 \\ + 64 \\ \hline \end{array}$
q. $4 + 22 + 146 =$	r. $11 + 44 + 146 =$	s. $\begin{array}{r} 5 \\ 30 \\ + 110 \\ \hline \end{array}$	t. $\begin{array}{r} 6 \\ 42 \\ + 150 \\ \hline \end{array}$
u. $5 + 65 + 123 + 9 =$	v. $15 + 55 + 138 + 2 =$	w. $\begin{array}{r} 72 \\ 56 \\ 4 \\ + 11 \\ \hline \end{array}$	x. $\begin{array}{r} 21 \\ 8 \\ 114 \\ + 30 \\ \hline \end{array}$

FULL PREVIEW
SAMPLE

Advanced

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

a. $8 + 9 + 7 + 6 + 16 + 25 =$	b. $22 + 33 + 55 + 44 + 77 =$	c. $4 + 1.5 + 27 + 2.5 =$
d. 57 cars on lot A, 34 on Lot B, 117 on Lot C. Total cars?	e. 27kg of potatoes, 5kg onions, 50kg snags and 15kg burgers. How many kgs?	f. A family gathering has 4 families with 19, 24, 31 & 17 members respectively. How many people?
g. Add 50 20 times to 100 =	h. 25 birds fly in a flock and twice as many in another. How many birds in total?	i. $1 + 10 + 100 + 1,000 + 10,000 + 100,000 + 1,000,000 =$

Applied

a. Johan is trying to monitor his fitness but he can't afford a fitbit. He walked 12,000 steps on Monday, 7,500 on Tuesday, 4,250 on Wednesday, 14,000 on Thursday and Friday, 8,000 on Saturday and 17,250 on Sunday. How many steps did Johan walk in that week?

b. Lindsie is at work in the bakery and the first customer buys 12 bread rolls, the second 24 bread rolls, the third (a café) buys 100 rolls and the next 4 customers buy 6 bread rolls each. The final customer buys 2 dozen bread rolls. How many bread rolls in total did Lindsie sell?

2 Subtraction

Skills Development

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

a. $26 - 7 =$	b. $84 - 9 =$	c. 46 $\underline{-2}$	d. 55 $\underline{-9}$
e. $94 - 68 =$	f. $94 - 53 =$	g. 53 $\underline{-15}$	h. 85 $\underline{-25}$
i. $89 - 47 =$	j. $136 - 47 =$	k. 79 $\underline{-32}$	l. 125 $\underline{-85}$
m. $17 - 9 - 3 =$	n. $47 - 36 - 12 =$	o. 76 25 $\underline{-11}$	p. 99 64 $\underline{-24}$
q. $144 - 22 - 6 =$	r. $146 - 46 - 50 =$	s. 100 30 $\underline{-10}$	t. 150 42 $\underline{-9}$
u. $155 - 65 - 23 - 9 =$	v. $138 - 55 - 38 - 2 =$	w. 72 56 4 $\underline{-11}$	x. 121 8 14 $\underline{-30}$

FULL PREVIEW
SAMPLE

Advanced

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

a. $88 - 9 - 7 - 6 - 16 - 25 =$	b. $222 - 33 - 55 - 44 - 77 =$	c. $14 - 1.5 - 7 - 2.5 =$
d. 150 cars in car park. 27 leave in hour 1, 36 in hour 2 and 74 in hour 3. How many cars remaining?	e. Janez has made 100 tarts for the party. Ben eats 12, Lola 16, Cram 24 and Pixi 5. How many tarts left?	f. Gilbertina is making sausage rolls. Each 20 requires 1.5kg of mince. After starting with 10kg of mince how much is left after making 100?

Applied

a. Markie is out shopping and has \$1,000 in his bank. He spends \$250 on a suit, \$75 on a new pair of boots, \$200 on a new power saw and buys 3 iTunes cards at \$20 each. After spending \$20 on lunch how much does he have left?

b. My is doing a 5-day 600 km cycling training program. On day 1 she cycles 120 km, day 2: 73 km, day 3: 106 km and day 4: 175 km. How many kilometres does she need to cycle on day 5 to reach her target?

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. $7 + 19 - 16 =$	b. $57 + 32 - 29 =$	c. $11 + 17 + 25 - 16 =$
d. $81 + 125 - 52 =$	e. $57 - 44 + 114 =$	f. $\begin{array}{r} 26 \\ + 25 \\ - 42 \\ \hline \end{array}$
g. $35 + 86 - 16 - 4 =$	h. $10 + 20 + 30 - 10 - 1 =$	i. $\begin{array}{r} 50 \\ - 25 \\ + 30 \\ \hline \end{array}$
j. $9 + 9 + 4 + 6 + 9 - 5 =$	k. $32 + 56 - 24 + 81 =$	l. $\begin{array}{r} 11 \\ + 124 \\ - 10 \\ - 50 \\ \hline \end{array}$
m. $17 + 15 - 9 - 8 - 2 - 5 =$	n. $158 + 252 - 70 =$	o. $52 - 57 + 105 - 18 =$
p. $1,000 + 2,000 - 500 =$	q. $500 - 250 + 1,250 - 750 =$	r. $70 - 20 - 25 - 35 =$

FULL PREVIEW
SAMPLE

Advanced

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

a. $2.5 + 27 + 6.5 - 12.25 =$	b. $150 - 25 - 12.5 + 6 + 800 =$	c. $11 - 14 + 1,000 + 250 - 9 =$
d. $4,500 - 3,750 + 9,995 - 6,125 =$	e. $56,000 + 96,000 - 36,000 =$	f. $8,000 + 1,000 - 900 - 6,500 =$
g. $17,000 + 5,250 + 750 - 4,100 =$	h. $712,000 + 257,000 - 82,000 - 25,000 =$	i. $1,450,000 - 250,000 + 750,000 - 90,000 =$
j. $7.1 - 4.6 + 5.8 - 2.1 + 3.8 - 2.7 =$	k. 1,000kg plus 40kg add another 2,000kg then take away 725kg =	l. 1 million plus a 100 million minus 10 million =

3 Addition and Subtraction

Applied

You start out with \$100. You earn \$75 next week and spend \$50. You earn \$150 the week after and spend \$160. You earn \$200 the week after that and spend \$175. Finally, you earn nothing in the final week but still spend \$57.

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.

**FULL PREVIEW
SAMPLE**

Cal is working the fryers at the Fish'n'Chippery. He fries up 2kg of chips to get started. 10 customers each buy 250g of chips. In the meantime, Cal has fried another batch of 2kg. 5 more customers each buy a 250g serve.

d. How much chips are left?

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

A shop starts with the following stock.

- | | | |
|---------------------|-----------------------|------------------|
| ⇒ Chocolate bars 20 | ⇒ Chips 60 | ⇒ Health bars 12 |
| ⇒ Drinks 50 | ⇒ Packs of jellies 15 | ⇒ Gum 35 |

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

- | | | |
|--------------------|----------------------|-----------------|
| ⇒ Chocolate bars 5 | ⇒ Chips 6 | ⇒ Health bars 1 |
| ⇒ Drinks 12 | ⇒ Packs of jellies 9 | ⇒ Gum 7 |

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.

- | | | |
|---------------------|-----------------------|-----------------|
| ⇒ Chocolate bars 14 | ⇒ Chips 2 | ⇒ Health bars 4 |
| ⇒ Drinks 6 | ⇒ Packs of jellies 12 | ⇒ Gum 0 |

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

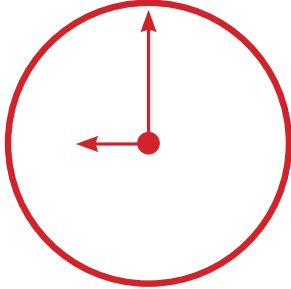
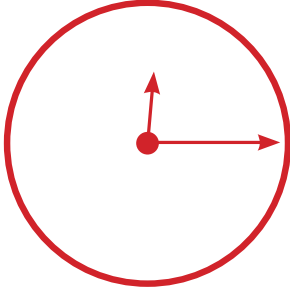
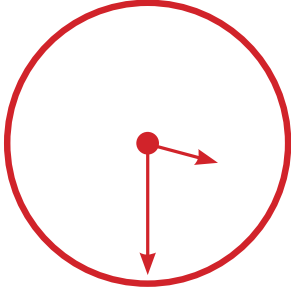
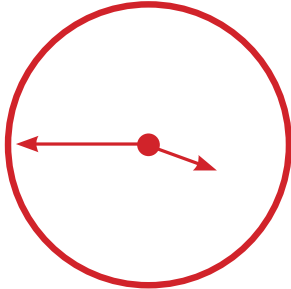

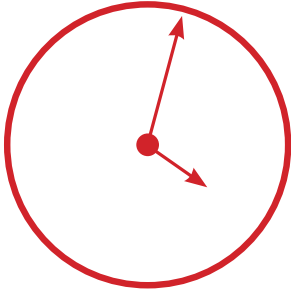
i. Which shop do you think is doing better? Explain the reasons for your answer.

j. If you climb 20 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?

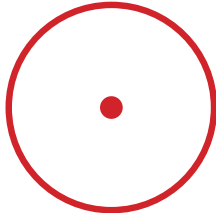

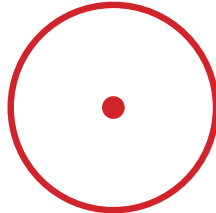


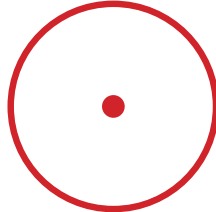
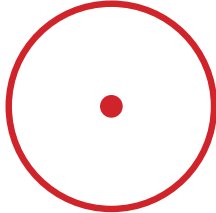

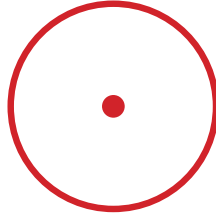
4 Time

Skills Development

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

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

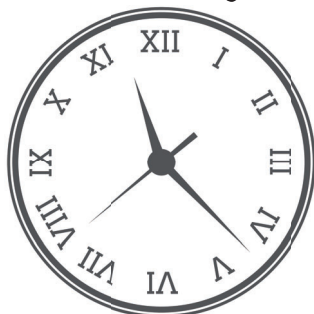
b. Indicate each of these **times** on an analogue clockface.

a. 4:00pm 	b. 1:00am 	c. 10:30 
d. 5:50 	e. 1:45 	f. 6:15 
g. 8:15 	h. 4:50 	i. 11:15 

Advanced

Write these **times** from the clockface using **digital** time (with am/pm) and using a **24-hour** clock display.

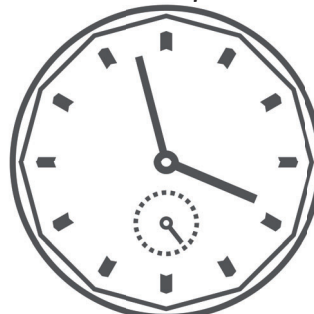
a. morning



b. morning



c. day



d. night



e. morning



f. night

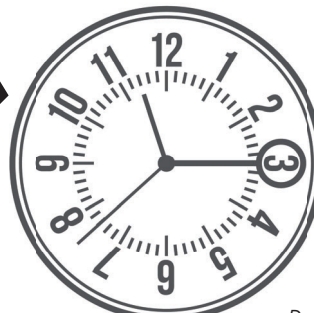


Image: K3star/Depositphotos.com

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

Applied

Your neighbour has booked a flight to LA. The flight time is 15:30. So when during the day is the plane leaving? What time would your neighbour have to leave to go to the airport? Think carefully about this.

5 Calculating Time

Skills Development

Calculate how much **time has elapsed** for the following timespans. Make sure that you show appropriate workings out.

a. 7:30am to 11:30am	b. 7:45am to 11:15am	c. 5:15pm to 11:45pm
d. 5:00am to 3:00pm	e. 7am to 3:30pm	f. 11:15am to 9:30pm
g. 7:45am to 12:30pm	h. 5:15pm to 7:45am	i. 9:30pm to 7:30am
j. 08:00 to 13:00	k. 06:00 to 19:00	l. 07:30 to 14:45
m. 18:00 to 0:00	n. 19:30 to 07:30	o. 11:30 to 21:30

**FULL PREVIEW
SAMPLE**

Advanced

Calculate the **total time (duration)** for the following situations.

<p>a. Shop is open 6 days a week: for 10 hours a day weekdays, and 8 hours on Sunday. Total open hours?</p>	<p>b. Journey to Sydney starts 05:30; arrival at 20:30. Actual travel time was 10 hours. Total time and how much time in breaks?</p>	<p>c. Need to slow cook a stew for 14 hours. Dinner party is at 7:30pm. When do you put the stew on?</p>
<p>d. Deliveries between 7:30am to 9:15am, 10:40am to 12:05 pm and 3:35 pm to 5:37pm. How much travel time?</p>	<p>e. How much time in hours has elapsed by a project that takes 3 days, 14 hours and then another 2 days and 3 hours</p>	<p>f. 7 workers rostered on from 07:00 to 16:30 with a break of 1 hour each. What is the total time worked?</p>

FULL PREVIEW SAMPLE

Applied

Assume you are working a full-time week as part of work placement or in your preferred job. Calculate the total time you will spend on your workday. Include getting ready for work, travelling, hours worked and breaks.

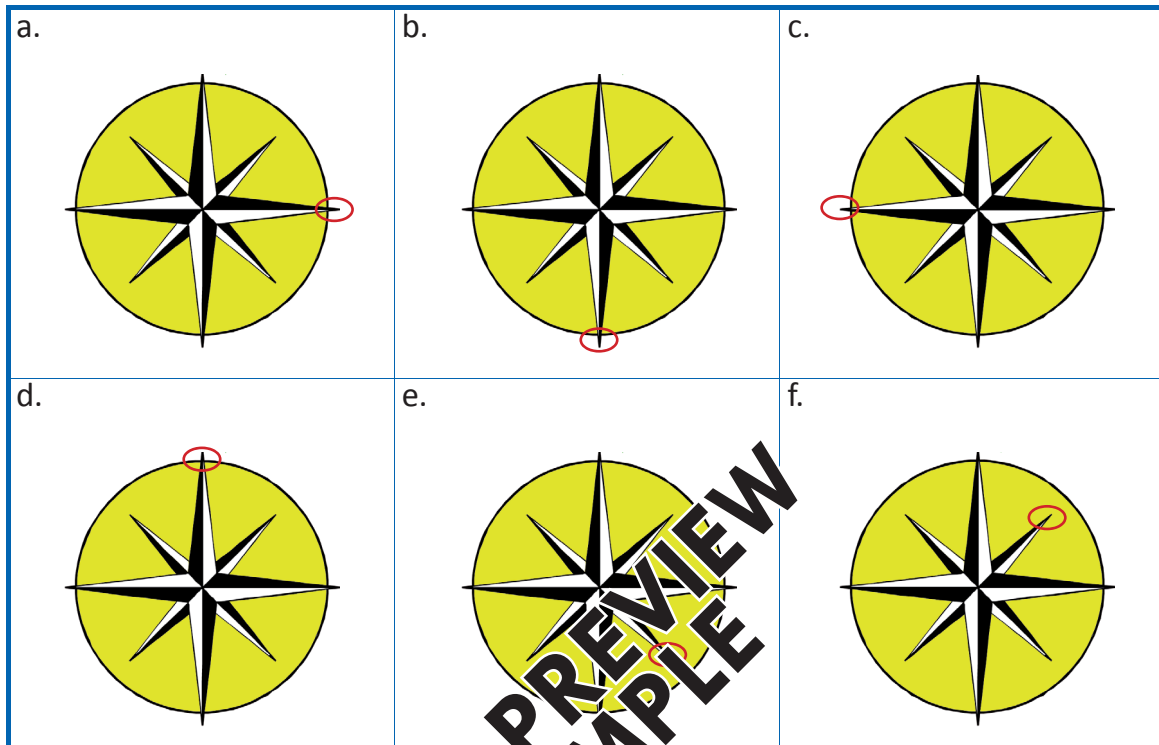
Now do the same based on being a 5-day part-timer working 4-hour shifts with no breaks. Which do you prefer and why?

6 Directions and Location

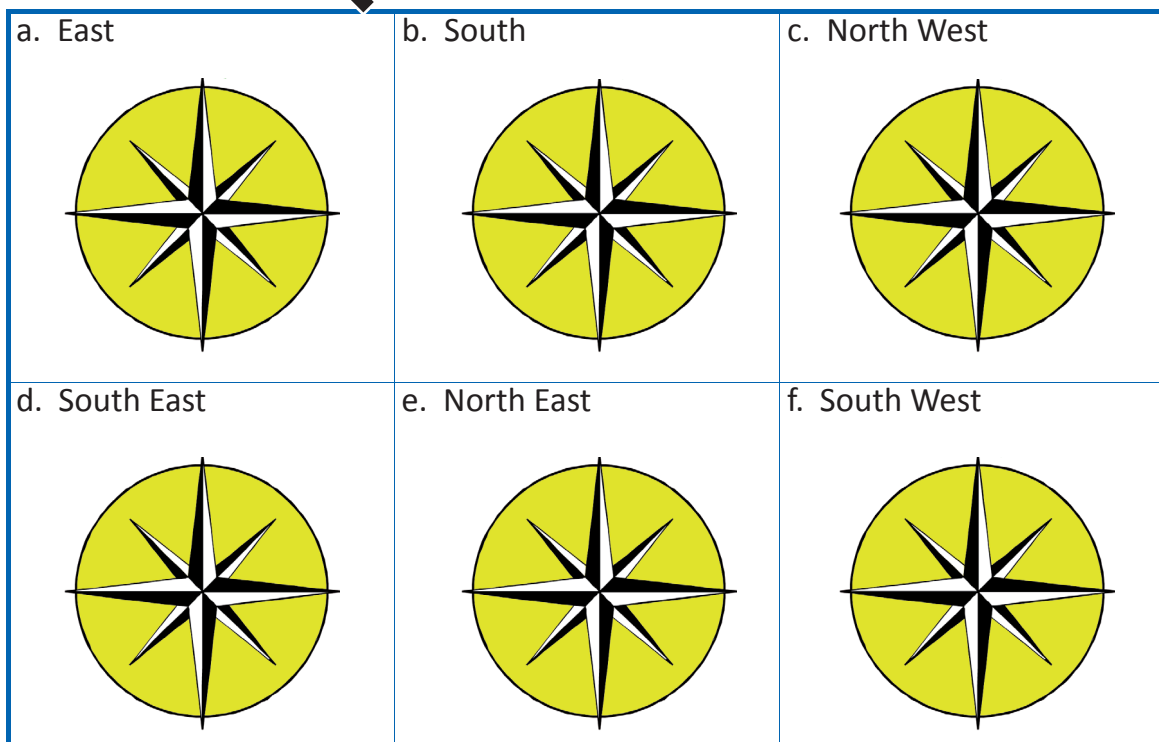
Skills Development

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

Image:
iStock/Thinkstock



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



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 8 features from the image such the rooms, people and key objects within the rooms.

Have a go at creating and describing a similar image based on your own dwelling.

Image bottom: jiri_kaderabek/
Depositphotos.com



A large empty rectangular box with a blue border, intended for the student to write their description of the house's features and their relative locations.

7 It Takes Time

Skills Development

When we **travel** places it takes us **time**, and costs **money**. Compare the following situations based on public transport travel, versus personal travel by car.

Explain which option you would take.

Situation	Time and cost by public transport	Time and cost by car	Which method for you and why?
From your home to the CBD.			
From your home to your nearest cinema.			
From your home to your workplace (or a possible workplace).			
From your home to your nearest hospital.			
From your city/town to your airport.			
From your home to the nearest interstate capital city.			
From your city/town to the Gold Coast.			

**FULL PREVIEW
SAMPLE**

Advanced

Estimate how much **time** it would take to deal with these situations. Do some research and see how accurate your estimates were. Report back to the class.

a. Make and serve 4 caffe lattes to a group of waiting customers.	b. Make and wrap 20 salad rolls to prep for the sporting club canteen.
c. Organise your class to line up in order of height.	d. Organise a class of 20 prep children to line up in order of height.
e. Take and lodge the orders for a table of 4 diners in a café.	f. Properly wash and iron your clothes to get ready for a job interview.

Applied

A normal full-time working day will require a greater time commitment than a normal day at school.

What might you have to change, or give up, in your daily routine, if you are working full-time? Why?

8 Money

Skills Development

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

a. $\$2.50 + \$2 =$	b. $\$11 + \$4.50 =$	c. $\$7.40 + \$2.20 =$
d. $\$4 + \$2 + \$7 =$	e. $\$15 + \$25 + \$4.50 =$	f. $\$14 + \$99 + \$28.50 =$
g. $\$2.50 - \$2 =$	h. $\$11 - \$4.50 =$	i. $\$7.45 - \$2.25 =$
j. $\$12.50 - \$2 =$	k. $\$71 - \$20.50 =$	l. $\$127.90 - \$22.70 =$
m. $\$2.50 \times 6 =$	n. $\$12 / 4 =$	o. $\$100 \times 40 =$
p. $\$112.50 + \$2 - \$75 =$	q. $\$1,000 - \$500 + \$50 =$	r. $\$74 + \$74 - \$128 + \$1 =$

FULL PREVIEW
SAMPLE

Advanced

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

<p>a. You spend \$7 every day. How much per week, per month and per year?</p>	<p>b. You save \$50 a week for 20 weeks and then \$60 a week for 15 weeks. Total savings?</p>	<p>c. A customer orders 20 cans at \$2.50, 30 loaves at \$3.50 and 10kg of veggie burgers at \$15/kg. Total price?</p>
<p>d. A client pays \$500 in fees for each of 4 jobs, and then \$750 in fees for each of 6 more jobs. Total fees?</p>	<p>e. A car yard has 12 cars at \$22,000, 7 cars at \$18,000 and 15 cars at \$15,000. It just sold one of the mid-priced cars. Total sale value?</p>	<p>f. After a day selling at the local swap meet, you have 15 x \$20s, 6 x \$10s, 5 x \$5s, 27 x \$2s, 12 x \$1s and \$5.75 in silver. Total?</p>

FULL PREVIEW SAMPLE

Applied

a. You go to buy dinner for the family. 2 Big Macs, 2 Quarter Pounders, 12 nuggets, 4 large fries, 3 large soft drinks, 1 shake and a Happy Meal. How much will this cost?

b. Cril has had a car for a month. Insurance \$700, rego \$900, new tyres \$375, sound system \$320 and petrol at \$1.80 a litre for 100 litres. Total Cril's vehicle costs for the month. Should some of these be averaged over a longer time period?

9 Making Change

Skills Development

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

a. Purchase of \$7.50. Given \$10.	b. Purchase of \$12.50. Given \$20.	c. Purchase of \$24.75. Given \$50.
d. Purchase of \$63.75. Given \$100.	e. Purchase of \$2.20. Given \$10.	f. Purchase of \$12.95. Given \$20.
g. Purchase of \$22.75. Given 3 x \$10s.	h. Purchase of \$11.45. Given 1 x \$20 & 1 x \$1s.	i. Purchase of \$97.50. Given \$50 & 3 x \$20s.
j. Purchase of \$35. Given a \$20 & \$20.	k. Purchase of \$55.75. Given a \$50 & \$20.	l. Purchase of \$62.50. Given a \$50 & \$20
m. Purchase of \$75. Given a \$50 & \$20 & \$10	n. Purchase of \$159.95 Given a \$100 & \$50 & \$20.	o. Purchase of \$73.70 Given 4 x \$20s.

FULL PREVIEW
SAMPLE

Advanced

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

a. What change is left from \$100 after 6 purchases of \$16.50?	b. What change is left from \$100 after 12 purchases of \$5.50 and 3 of \$9.50?	c. What change is left from \$170 after 9 purchases of \$11, 5 of \$5, 3 of \$6 and 1 of \$20?
d. How much change do you give after diners split their \$450 bill 10 ways? Each pays with a fifty.	e. What change is left from \$20 after 8 purchases of \$1.20, 10 of \$0.50, 5 of 60c and 9 of 40c?	f. Customer is to be given change of \$17 but you haven't any notes left.
g. You buy 2 hotdogs at \$2.49 each. You don't get any change from \$5. What do you not?	h. You have already spent \$25 for your \$5, so what amount can you get for your little brother from the milk bar?	i. Customer buys 2 pair of jeans at \$89.95. How much change from a \$200 note?

Applied

You work as a casual at a hair salon and clients usually pay by card. But today the system is down. So you have to process the transactions manually and take cash. Here is the price list. *Cut \$45. Colour \$55. Style \$65. Set \$30. Trim \$35.*

Calculate each clients' total bill.


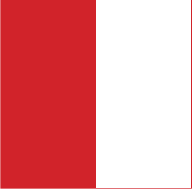

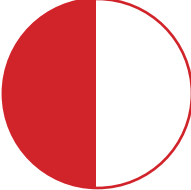


What (cash) currency units will you be expecting to receive when each pays?

- ⇒ Mina gets a cut, colour and set.
- ⇒ Gina gets a trim and set.
- ⇒ Lina gets a trim and style.
- ⇒ Pina gets a cut, style and set.
- ⇒ Tina gets a colour and set.
- ⇒ Xina gets trim, style and colour.

10 Percentages and Fractions

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 third
j. two thirds	k. three quarters	l. seven eighths

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

a. $\frac{1}{10}$	b. $\frac{3}{10}$	c. $\frac{2}{3}$	d. $\frac{9}{10}$
e. $\frac{5}{100}$	f. $\frac{1}{20}$	g. $\frac{3}{4}$	h. $\frac{7}{20}$

Advanced

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

a. $\frac{1}{2} + \frac{1}{2} =$	b. $\frac{1}{4} + \frac{1}{4} =$	c. $\frac{1}{3} + \frac{1}{2} =$	d. $\frac{3}{8} + \frac{1}{2} =$
e. $\frac{1}{2} + 0.5 =$	f. $0.25 + \frac{1}{2} =$	g. $0.1 + 0.3 + \frac{1}{2} =$	h. $0.6 + \frac{1}{2} - 0.1 =$
i. $\frac{1}{2} - \frac{1}{4} =$	j. $0.9 - 0.6 =$	k. $1.5 + 2 - 1.2 =$	l. $0.3 + \frac{1}{2} - 0.2 =$
m. 10% of 100 =	n. 10% of 200 =	o. 10% of 50 =	p. 40% of 500 =
q. 25% of \$250 =	r. 25% of \$2,000 =	s. 80% of \$160 =	t. 50% of \$350 =

Applied

- a. Klem likes Skittles. She counts out 100 and will eat these evenly over the next 4 days. What fraction, decimal and percentage will she eat per day?
- b. Harry likes fried chips. He buys 2kg and wants to share these evenly with 7 friends. What fraction, decimal and percentage is to be shared between them all? What would be the weight of each shared portion?

11 Multiplication

Skills Development

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

a. $5 \times 7 =$	b. $4 * 15 =$	c. $\begin{array}{r} 6 \\ \times 25 \\ \hline \end{array}$
d. $9 * 8 =$	e. $11 \times 15 =$	f. $\begin{array}{r} 12 \\ \times 20 \\ \hline \end{array}$
g. $23 * 7 =$	h. 50 times ... =	i. $\begin{array}{r} 37 \\ \times 30 \\ \hline \end{array}$
j. $5 \times 6 \times 11 =$	k. $5 * 4 * 10 =$	l. $\begin{array}{r} 8 \\ 9 \\ \times 5 \\ \hline \end{array}$
m. $60 * 2 * 4 * 2 =$	n. $23 \times 2 \times 4 \times 16 =$	o. $\begin{array}{r} 10 \\ 9 \\ 6 \\ \times 5 \\ \hline \end{array}$
p. 17 times $5 * 2$ by 4 =	q. $20 \times \frac{1}{2} =$	r. $\begin{array}{r} 25 \\ 2 \\ 15 \\ \times 10 \\ \hline \end{array}$

FULL PREVIEW
SAMPLE

Advanced

Calculate the following **multiplication** problems; show your workings out for each.

a. $278 * 30 =$	b. $100 * 40 * 12 =$	c. $70 * (15 * 26) * 14 =$
d. $10 * 1,000 * 50 * 20 =$	e. $11 * 77 * 66 * 88 =$	f. $15 * 10(-2) =$
g. A person runs 5 km per day, 3 times a week. Total km?	h. 6 people each pay fines of \$25. They do this for 50 weeks. Total?	i. A cat runs up and down 15 stairs 50 times a day. How many stairs in a fortnight?

Applied

a. Allain buys a can of Coke every day. How much does Allain spend per week and for the year?

b. Jiminy drives 15km each weekday and 100km on each weekend. How many km per week and per year? (What about per month?)

12 Order of Operations

Skills Development

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

a. $5 \times 6 + 7 =$	b. $9 + 7 \times 4 =$	c. $10 \times 10 / 5 =$
d. $12 * 10 - 50 =$	e. $20 * 15 - 25 =$	f. $15 + 20 * 9 =$
g. $15 / 3 + 25 + 10 =$	h. $15 \times 3 + 25 \times 10 =$	i. $15 + 3 + 25 \times 10 =$
j. $2 \times 6 + 14 \times 7 =$	k. $8 \times 5 + 10 * 20 =$	l. $28 \times 5 + 12 \times 5 =$
m. $65 - (7 \times 8) - 2 =$	n. $10 + (70 \times 10) - 5 =$	o. $20 \times 20 - 20 \times 20 =$
p. $15 / 5 + (7 \times 20) \times 10 =$	q. $100 / 25 + (4 \times 10) \times 15 =$	r. $50 - 43 + (11 * 6) - 15 =$

FULL PREVIEW
SAMPLE

Advanced

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

a. You have 5 groups of 5 trainees, you add 5 more and then split them into 6 groups. How many per group?	b. You earn \$20 a day for a week, but spend \$100. You then earn another \$15 for 3 days running. How much do you have?	c. A customer buys 10 hats at \$20 each and 10 scarves at \$10 each. He wants to pay in 3 equal instalments.
d. 30 fish weigh 10kg in total. You take out the 5 biggest which removes 2kg. What is the average weight of those left?	e. Each outfit requires 2m of cloth + $\frac{1}{2}$ metre for hems & seams. How many metres for 10 outfits?	f. You have 1,000 M&Ms for 10 people at the party. But an extra 2 people turn up. How many M&Ms for each?

Applied

You are ordering food for a party at the local bakery.

You order 50 cupcakes at \$2 each, 75 sausage rolls at \$1 each and 25 tarts at \$5 each. You know you have to pay half the total as a deposit; so you have exactly \$150 cash for this.

The cashier is quite surly and enters the amounts in her calculator. "That will be \$1,000 in total and your deposit is \$500."

After you pick your jaw off the ground, you point out that the "calculator might be wrong" and ask if she can please re-check. (That's your PDS training coming in!)

She "hmmphs" loudly, rolls her eyes, and re-enters the numbers in her calculator almost pushing the buttons through the other side.

"Look. Fifty times two, plus seventy-five, times one, plus twenty-five, times five, equals one thousand dollars! So, divided by two your deposit is five hundred dollars. Hurry up and pay please, there's customers waiting you know!"

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?

13 Pay

Skills Development

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

a. Al works 20 hours @ \$12.	b. Bo works 40 hours @ \$30.	c. Cy works 50 hours @ \$40.
d. Di works 15 hours @ \$17.50	e. Ef works 60 hours @ 20.	f. Fi works 40 hours at \$27.50.
g. Ga works 20 hours @ \$20 and \$10 hours @ \$30.	h. Hu works 40 hours @ \$25 and 6 hours @ \$50.	i. Il works 10 hours @ \$70 and 10 hours @ \$80.
j. Jy gets \$3 per delivery and makes 15 deliveries.	k. Ka gets \$5 per sale and makes 26 sales.	l. Li gets \$12.75 per order and processes 23 orders.

FULL PREVIEW
SAMPLE

Advanced

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

<p>a. Mo earns \$20 per hour plus 50% for overtime. Mo works 38 hours plus 8 hours overtime.</p>	<p>b. Na gets \$15 per hour and works 20 hours per week for 20 weeks.</p>	<p>c. Ol gets \$30 per hour and works a standard working week for the whole year.</p>
<p>d. Po is paid 55% of the adult rate, which is \$30, and works a 38-hour week.</p>	<p>e. Qu is paid 90% of the adult rate, which is \$20, and works a 28-hour week.</p>	<p>f. Ru gets a salary of \$104,000 per year. How much per week, and per hour, based on 38-hour weeks?</p>

Applied

If you got a casual job 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? Off you go then - find out for sure!

14 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.

Henry	Henrietta
Mon: 8am - 5pm	Mon: 8am - 5pm
Tues: 9am - 6pm	Tues: Off
Wed: Off	Wed: 8am - 5pm
Thur: Off	Thur: 9am - 6pm
Fri: 8am - 5pm	Fri: 11am - 7:30pm
Sat: 10am - 7pm	Sat: 12pm - 7pm
Sun: 12pm - 4pm	Sun: Off

	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?

Henry	Henrietta

Advanced & Applied

Complete **timesheets** for Henry and for Henrietta based on the information in 'a'. Henry (aged 16) is paid \$12 an hour and Henrietta (an adult) is paid \$22 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							

FULL PREVIEW
SAMPLE

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

15 Budgets

Skills Development

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

a. Income: \$500 Expenses: \$400	b. Income: \$800 Expenses: \$400 + \$385	c. Income: \$1,500 Expenses: \$400 x 4
d. Income: \$50 x 20 Expenses: \$20 x 50	e. Income: \$573 Expenses: \$178 + \$322	f. Income: \$9m Expenses: \$4m + \$2.5m + \$1m + \$0.5m

b. Complete **budgets** based on the following information

a. 1-week budget Income: Wages \$500 Expenses: Rent \$200 Food \$90 Bills \$75 Petrol \$25 Other \$15	b. 4-week budget Income: Wages \$500 a week Expenses: Rent \$150 a week Food \$100 a fortnight Bills \$75 a week Travel \$25 a week Phone \$50 for 4 weeks Internet \$70 for 4 weeks Other \$40 a week
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FULL PREVIEW
SAMPLE

Advanced

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

a. If a budget is in deficit \$50 every week, what will be the total deficit for the year?	b. If revenue exceeds expenses by \$12 every fortnight how much will the budget be in surplus for the year?	c. If revenue is 10% more than expenses, and expenses are \$250 per month, then how much is revenue per month?
d. Wages = \$100 per week. Expenses \$220 per fortnight. What is the budget result for the year?	e. If a budget is expected to be a deficit of \$2000 for the year, how much less needs to be spent per week to make a balance?	f. Is this correct? You should overestimate revenue because it's money in and underestimate expenses because that's money out.

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 an iWatch, a new phone or a car.

- Prepare a budget that shows your current financial situation and your revenue and expenditure patterns.
- Estimate how much money you will need to save to buy your first motor vehicle (or some other longer-term savings goal). Also estimate how long that may take.
- Use your budget to forecast your likelihood of achieving this savings goal.
- Identify revenue and expenditure areas from your budget that you can change to better help you reach your savings goal.
- Re-calculate your budget reflecting these changes.
- Report on how much more likely you are now going to be able to reach your savings goal.

16 Estimating

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 school?	b. How far away is the nearest fish'n'chip shop from you?	c. How long is a plane trip from Melbourne to Perth?
d. What weight of food would you consume in a day?	e. How much does your family spend on electricity in a year?	f. How many SMS messages do you send a day?
g. How many kilometres does your family vehicle travel in a week?	h. How much does your family's car weigh?	i. How long do you take to have a shower?
j. How many tiles are on a normal sized tiled house roof?	k. How much income are you likely to earn in your lifetime?	l. How many items of outer clothing do you own?
m. How much soft drink do you consume in a week?	n. How many hours a 'day' do you spend asleep?	o. What is the temperature in this room right now?

FULL PREVIEW
SAMPLE

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 burgers your local Hungry Jacks or McDonald's sells in a day?	c. Total time it would take to mow the MCG?
d. Total weight of an NRL team?	e. Total cars that travel down your street per day?	f. Total wealth of Australia's 5 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.

b. Think of a child at the age of 5. 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 5?

17 Length and Distance

Skills Development

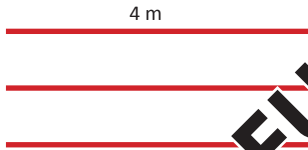

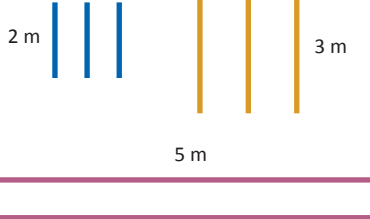
Calculate the following **lengths** in the most **appropriate unit**. Make sure that you show appropriate workings out.

a. How many centimetres (cm) in a metre (m)?	b. How many cm in 3 m?	c. How many cm in 8.5 m?
d. How many millimetres (mm) in a centimetre (cm)?	e. How many mm in 53 cm?	f. How many mm in 180 cm?
g. How many millimetres in a metre (m)?	h. How many mm in 2.5 m?	i. How many mm in 4.8 m?
j. $10 \text{ cm} + 27 \text{ cm} =$	k. $110 \text{ cm} + 50 \text{ mm} =$	l. $2,048 \text{ mm} - 20 \text{ cm} =$
m. $6 \text{ metres} + 50 \text{ cm} =$	n. How many metres (m) in a kilometre (km)?	o. $4 \text{ km} + 2,500 \text{ m} =$

**FULL PREVIEW
SAMPLE**

Advanced

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

<p>a. $6 \times 2 \text{ m} + 50 \text{ cm} =$</p>	<p>b. $3 \times 8 \text{ m} - 500 \text{ cm} =$</p>	<p>c. $11 \times 2 \text{ cm} + 50 \text{ mm} =$</p>
<p>d. $14 \times 8 \text{ m} - 500 \text{ cm} =$</p>	<p>e. $12 \div 2 \text{ m} + 500 \text{ mm} =$</p>	<p>f. $60 \times 4 \text{ cm} - 4 \times 0.5 \text{ m} =$</p>
<p>g. Total length?</p> 	<p>h. Total length?</p> 	<p>i. Total length?</p> 

Applied

How much distance do you walk (or someone you know) in a week? Calculate the total distance. Is that enough to maintain a healthy lifestyle? Do some research and find out.

18 Measurements

Skills Development


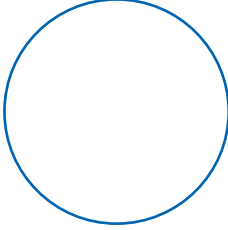
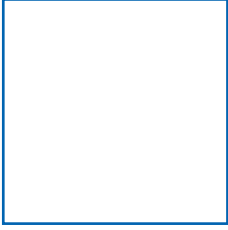


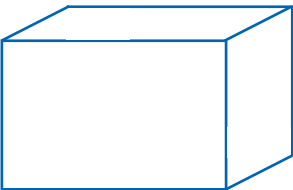
Calculate the following **measurements** in the correct **units** using the information provided. Make sure that you show appropriate workings out.

a. Perimeter of a square: 4cm	b. Perimeter of a rectangle: 8cm by 12cm	c. Perimeter of a rectangle: 13cm x 25cm
d. Perimeter of a rectangle: 2m by 1.5m	e. Circumference of circle: Diameter = 20cm	f. Circumference of circle: Radius = 10cm
g. Area of a square: 4cm ²	h. Area of a square: 1.5cm	i. Area of a rectangle: 50cm x 20cm
j. Area of a rectangle: 2m x 500mm	k. Area of a circle: Diameter = 16cm	l. Area of a circle: Radius = 1m
m. Volume of a square 4cm ³	n. Volume of a rectangle: 10cm x 5cm x 20cm	o. Volume of a rectangle: 1m x 0.5m x 2m

**FULL PREVIEW
SAMPLE**

Advanced

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

<p>a. Perimeter</p> 	<p>b. Circumference</p> 	<p>c. Area</p> 
<p>d. Perimeter</p> 	<p>e. Area</p> 	<p>f. Volume</p> 

FULL PREVIEW
SAMPLE

Applied

You have baked a cake to take to school as a surprise for your friend’s birthday. But you need to buy a cake box and some wrapping paper. You only have \$7.

The cake is circular with a diameter of 30cm. It has a height of 10cm.

At the cake shop they have a box that is 30cm² with a height of 11cm for \$5.

The shop has another box that is 35cm² with a height of 15cm for \$6.

The newsagent has wrapping paper of 3 metres for \$2 or 2 metres for \$1.

Draw a diagram to show the cake and the cake box.

Which combination of cake box and wrapping paper would you buy? Why so? Do the calculations to justify your answer.

19 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 4 kg?	c. How many grams in 7.5 kg?
d. How many g in $\frac{1}{2}$ kg?	e. $0.7 \text{ kg} + 1.5 \text{ kg} =$	f. $0.4 \text{ kg} + 1 \text{ kg} + 500 \text{ g} =$
g. $6 \times 0.5 \text{ kg} =$	h. $20 \text{ kg} = ? \text{ g}$	i. $24 \times 250 \text{ g} =$
j. $10 \text{ kg} \text{ minus } 4.5 \text{ kg} =$	k. $4 \text{ kg} + 2 \times 2 \text{ kg} =$	l. $(250 \text{ g} \times 3) + 2 \times 1 \text{ kg} =$
m. How many kg in a tonne?	n. How many kg in 10 tonnes?	o. How many kg in 3.8 tonnes?

**FULL PREVIEW
SAMPLE**

Advanced

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

<p>a. John doesn't have any dumbbells so he curls 2kg bags of flour 100 times for each arm. Total weight?</p>	<p>b. If a butcher sells 50kgs of chops, 100 steaks each of 400g and 37 serves of other meats at 1kg each what is the total weight?</p>	<p>c. How many of you (based on your weight) would equal your family motor vehicle?</p>
<p>d. Gabi loads her van for her daily courier run. She has 6 parcels at 30kg, 12 parcels at 23kg, 14 parcels at 18kg and 35 parcels at 5kg. Total kg?</p>	<p>e. Sal is a vegetarian and eats 500g of apples per week, twice that weight in oranges, fruit and 4 times that weight in vegetables. What weight of fruit and vegetables does she eat per week?</p>	<p>f. What would be the total weight of a 22 player AFL side? Make an estimate and then find out.</p>

FULL PREVIEW SAMPLE

Applied

You are going on an overseas trip for 2 weeks and are allowed to take one suitcase with you.

- a. Where might you be going?
- b. What will you take with you?
- c. Find out the luggage weight limit from your airline of choice.
- d. What process would you use to ensure that your luggage fits within this weight limit?
- e. What items might you need to both include in, and discard from, your luggage to meet this weight limit; and why?

20 Capacity

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 3 litres?	c. How many ml in 6.5 litres?
d. How many ml in $\frac{1}{2}$ litre?	e. $0.5 \text{ litre} + 1.5 \text{ litre} =$	f. $0.3 \text{ litre} + 1 \text{ litre} + 500 \text{ ml} =$
g. $6 \times 0.5 \text{ litres} =$	h. $3 \text{ litres} \times 2 =$	i. $24 \times 375 \text{ ml} =$
j. 10 litres minus 4.5 litres =	k. $3 \text{ litres} + 2 \times 2 \text{ litres} =$	l. $(300 \text{ ml} \times 3) + 2 \times 1 \text{ litre} =$
m. How many cubic centimetres in a litre?	n. How many litres in a megalitre?	o. How many litres in a half a megalitre?

**FULL PREVIEW
SAMPLE**

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 5 teaspoons?	e. How many ml in 6 tablespoons?	f. How many ml in 4 cups?
g. How many ml in 5 teaspoons, 2 tablespoons and 2 cups?	h. How many ml in 5 teaspoons, 2 tablespoons and 1 litre?	i. How many ml in 10 tablespoons and 5 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 that is 10 cm x 12 cm x 20 cm.	b. Volume of a carton that is 50 cm x 35 cm x 40 cm.	c. Volume of a box that is 1 m x 2 m x 0.5 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?

21 Division

Skills Development

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

a. $12 \div 4 =$	b. $80 \div 8 =$	c. $80 \div 10 =$
d. $77 \div 11 =$	e. $120 \div 5 =$	f. $200 / 25 =$
g. $80 \div 2 / 10 =$	h. $120 \div 10 =$	i. $1000 / 25 \div 4 =$
j. $180 / 10 \div 9 =$	k. $2,000 \div 50 \div 4 =$	l. $144 \div 2 \div 2 / 2 =$
m. 120 divided by 12 =	n. 80 how many 2s =	o. 10 into 1,500 =
p. $83 / 4 =$	q. $99 / 11 \div 2 =$	r. $(660 \div 60) / 2 =$

FULL PREVIEW
SAMPLE

Advanced

Calculate the following **division** problems and show your working out for each.

a. $390 \times 10 / 3 =$	b. $8,888 / 8 / 11 =$	c. $15 \div 2 \div 3 =$
d. $1,000 / 50 / 10 / 2 =$	e. $1 \text{ million} \div 10,000 =$	f. $30 \div 5(-3) =$
g. A bulk purchase of apples weighs 20kg. Each apple weighs about 100g. How many apples?	h. Have to share seven 8-slice pizzas between 11 students. How many slices each?	i. Table for 8 has a bill of \$270. How much will each diner pay if they split the bill evenly?

Applied

a. Lenny has to unload a shipment of second-hand bricks from the truck. There's a thousand bricks and his hand trolley can do 8 at a time. How many 'loads' for Lenny?

b. Aunt Samee wants to give each of her nieces and nephews a share of \$5,000. It's a big family and there are 26 of them. She reckons \$200 each sounds right. What do you think?

22 Data and Information

Skills Development

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

⇒ Ethel: 24, 173cm, cat, iPhone, red, steak, Prius.

⇒ Clarry: 74, 162cm, dog, landline, light blue, liver, Camry.

⇒ Cecil: 18, 193cm, snake, Samsung, green, chicken, Mini.

⇒ Daphne: 44, 154cm, rat, Nokia, purple, tofu, Valiant.

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

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

Kilometres run - Sep 2023				Customer purchases - 2023				
Person	Runs	Total km	Average	Customer	Purchases	\$	Total	Average
Frank	7	28		John	10	40		
Frankie	20	80		Jack	7	35		
Francis	30	60		Jackie	18	50		
Frances	14	49		Johan	7	150		
Francine	6	39		Jonni	19	40		
Totals				Totals				

Hours worked - July to November 2023					
Month	Hours	Shifts	Hrs/Shift	Pay	Total pay
July	32	8		\$15	
August	24	6		\$15	
September	48	12		\$15	
October	64	16		\$15	
November	80	20		\$15	
Totals					

Advanced

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

- ⇒ Mack worked 16 hours, at a rate of \$12.
- ⇒ Jen worked 20 hours at a rate of \$18/hour.
- ⇒ Vick worked 30 hours at a rate of \$20/hour.
- ⇒ Ngoc worked 38 hours at a rate of \$15/hour.
- ⇒ Lil worked 25 hours at a rate of \$35/hour.
- ⇒ Stan worked 2 shifts of 6 hours at a rate of \$15/hour.

Employee pay table - Oct 12-18, 2023			
Worker	Hours	Rate \$	Total
Mack	16	10	\$160
Jen	20	18	\$340
Nick	30	20	\$600
Ngoc	40	15	\$570
Stan	26	35	\$875
Lil	25	15	\$300
Totals	133		\$2,575

Employee pay table - Oct 12-18, 2023			
Worker	Hours	Rate \$	Total
Totals			

FULL PREVIEW SAMPLE

Applied

Survey 5 class members using the categories shown in question 'a.' on p.46. Complete a table to show the data you collect.

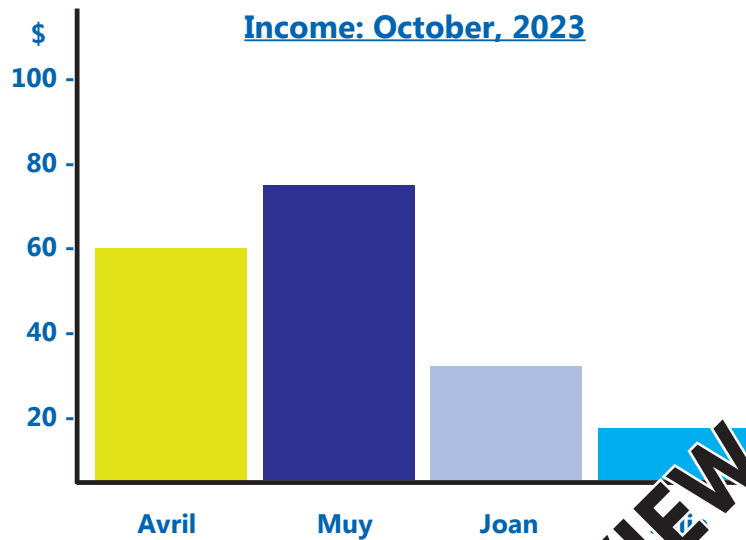
Peoples' data and information							
Person	Age	Height	Pet	Phone	Colour	Food	Car

Comment on any patterns in the data.

23 Bar Graphs

Skills Development

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



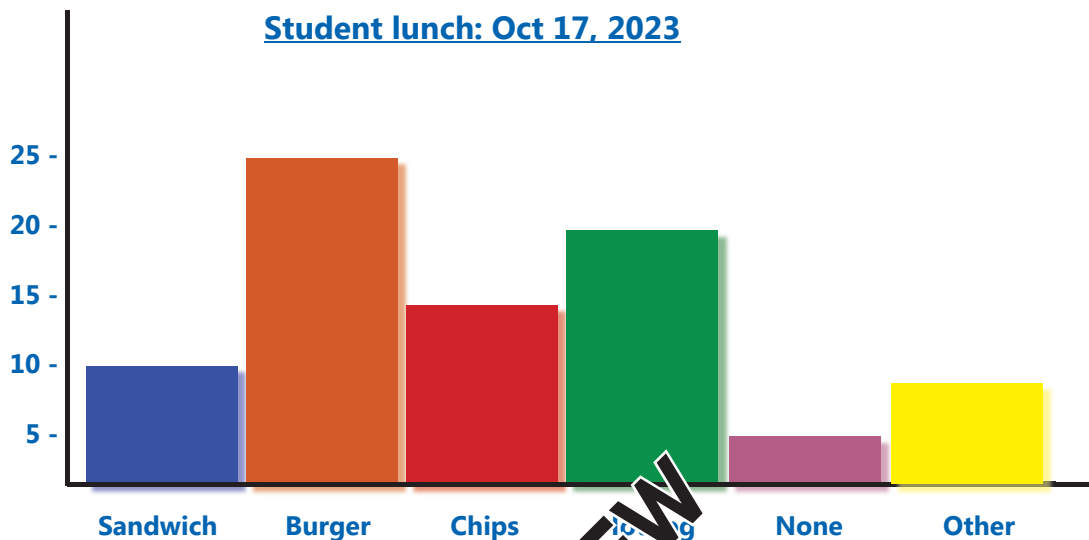
Income - October 2023	
Person	Total
Avril	
	\$75
Joan	
Julie	

- b. Complete a properly labelled **bar graph** to show the number of purchases for each customer in 2023.

Customer purchases - 2023			
Customer	Purchases	\$	Total
Jonni	20	40	\$800
Ronni	9	35	\$315
Vonni	12	50	\$600
Honni	10	75	\$750
Bonni	4	40	\$160

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.



- ⇒ Burger was the most common lunch choice for students.
- ⇒ 20 students had a sandwich for lunch.
- ⇒ More students ate hotdog for lunch than chips.
- ⇒ About 3 students didn't have a lunch.
- ⇒ Students seem to be preferring healthier lunch options.

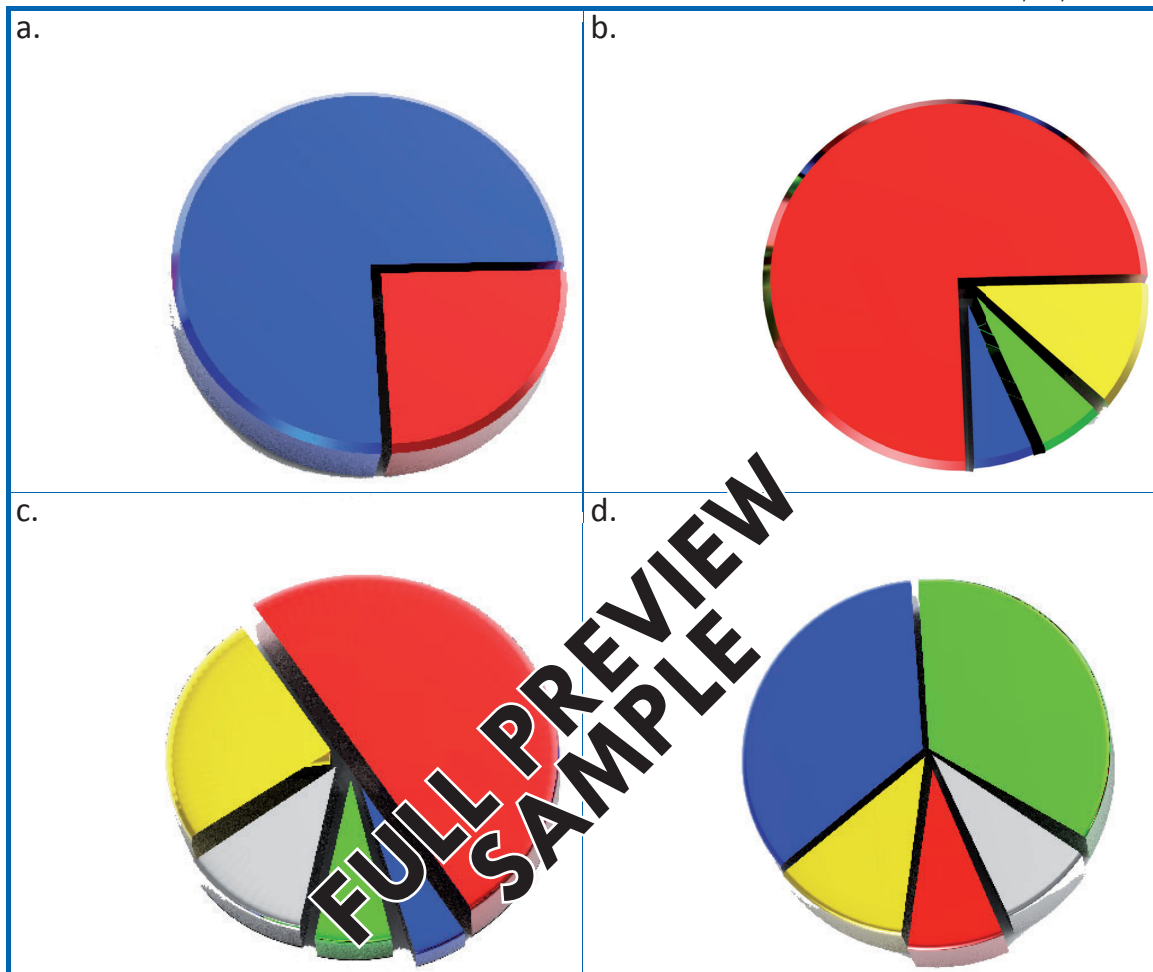
- b. Complete a bar graph for the same information based on a survey of students in your class. Write 5 clear statements that describe the data and information.

24 Pie Charts

Skills Development

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

*Image: everything poss/
Depositphotos.com*



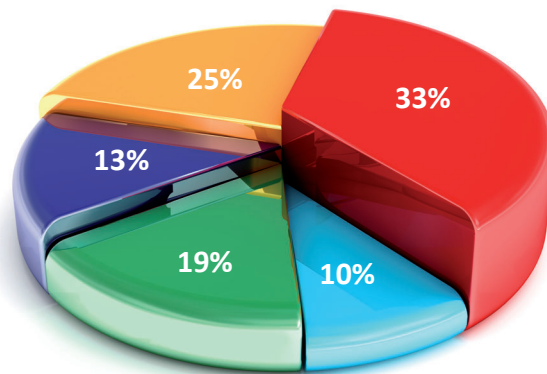
- b. Answer the following questions by identifying the **most likely pie chart**, together with a brief explanation of the reason for your choice.
- ⇒ Which pie chart is showing one single portion at 75% and 3 other portions as 25% combined?
 - ⇒ Which pie chart is showing one single portion at the same amount as the 4 other portions combined?
 - ⇒ Which pie chart shows 2 pieces equal to one another, 2 small pieces equal to each other and one piece slightly larger than those 2 smaller pieces?
 - ⇒ Which pie chart could be showing the responses to a yes/no survey? What might be the question?

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.

Students' favourite sportswear brand: Oct 2023

Image:
DmitryRukhlenko/
Depositphotos.com



Adidas	33%
Puma	19%
Nike	25%
Everlast	10%
Other	13%

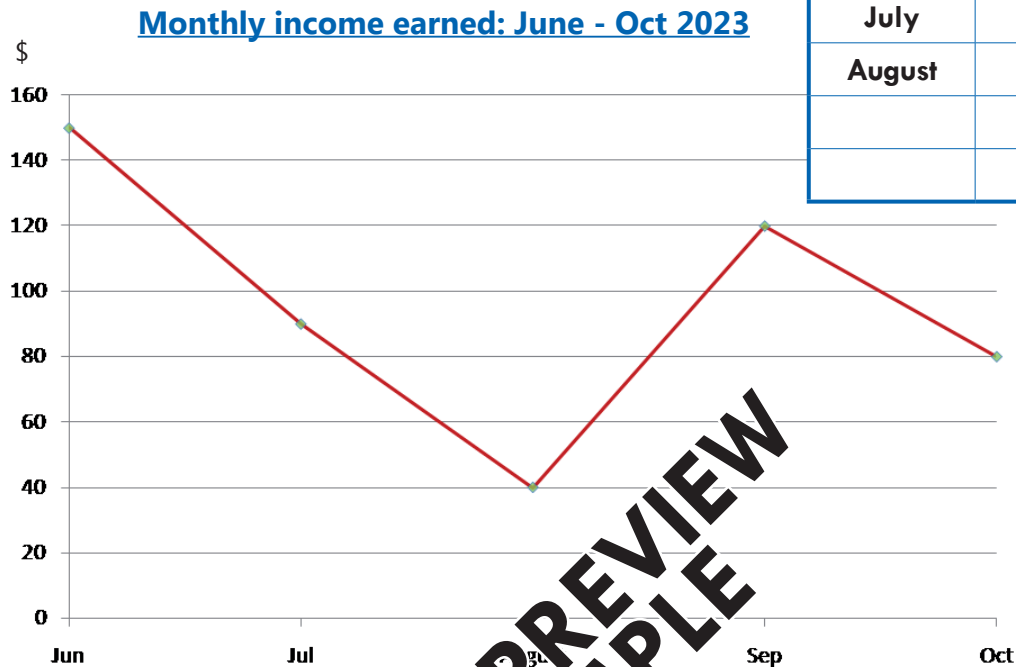
- ⇒ Adidas was the most popular sportswear brand of the students surveyed.
- ⇒ More than half preferred Adidas and Nike compared to other brands.
- ⇒ Added together, more students preferred Nike and Puma than Adidas.
- ⇒ About 20% of students preferred brands other than the 4 featured in the survey.
- ⇒ Everlast was the least popular of any brand.

- b. 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.

25 Line Graphs

Skills Development

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



Income: June - Oct 2023

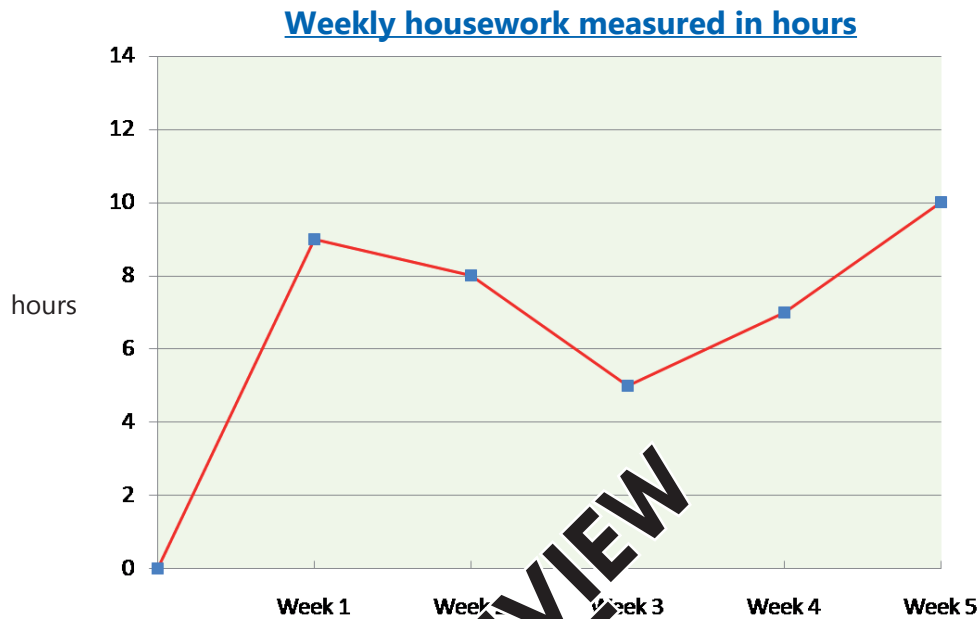
Month	Amount
June	\$150
July	
August	
	\$120
	\$

- b. Answer the following questions using the **information** from the **graph** shown above, Monthly income earned: June - Oct 2023. 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 \$100 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.



- ⇒ The most housework done was in Week 1.
- ⇒ The least housework done was in Week 3.
- ⇒ The overall trend for the housework done is upwards.
- ⇒ About 40 hours housework 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.

26 Likelihood

Skills Development

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

a. 1 in 2 chance in percentage?	b. 1 in 4 chance in percentage?	c. 1 in 10 chance in percentage?
d. 1 in 100 chance in percentage?	e. 10 in 100 chance in percentage?	f. 3 in 4 chance in percentage?
g. 50%: What are the odds?	h. 66%: What are the odds?	i. 25%: What are the odds?
j. 10%: What are the odds?	k. 1%: What are the odds?	l. 90%: What are the odds?
m. What is the percentage likelihood of 4 out of 5?	n. What is the percentage likelihood of 1 out of 4?	o. What is the percentage likelihood of 1 out of 100?
p. Likelihood of a head?	q. Likelihood of a tail?	r. Likelihood of 2 heads in a row?
s. Likelihood of a black card from a deck?	t. Likelihood of a club card from a deck?	u. Likelihood of an Ace from a deck?

**FULL PREVIEW
SAMPLE**

Advanced

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

a. Which is a better chance? 1 in 2 or 3 in 4	b. Which is a better chance? 7 in 8 or 4 in 5	c. Which is a better chance? 25% or 1 in 4
c. Which is the more likely outcome? "Fifty/fifty" or "one in three".	d. Which is the more likely outcome? "Better than even" or "twenty-five per cent".	f. Which is the more likely outcome? "One in every hundred" or "one in every thousand".
g. Rank these in order of likelihood. 25%, 50/50, 1 in 3, less than a quarter.	h. Rank these in order of likelihood. 95%, 75%, 50% 1 in 3, 1 in 4.	i. Rank these in order of likelihood. 75%, almost always, barely ever, even chance.
i. Is this more likely or less likely to happen? Estimate a %. "A dead set certainty!"	j. Is this more likely or less likely to happen? Estimate a %. "I wouldn't hold my breath!"	k. Is this more likely or less likely to happen? Estimate a %. "Just as likely as unlikely."

Applied

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

Many overseas tourists are afraid of Australia's deadly wildlife. But which animals in Australia are the most dangerous to humans?

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?

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3&4 Interim masters

Available from Nov

Available from Nov

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Foundation Numeracy	___ @ \$44	na
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