

Applying for a TFN

1. **Visit the Australian Taxation Office (ATO) website:** [Apply for a TFN](#)
2. **Create a [myGovID](#) account:** If you don't have one, you'll need to create an account.
3. **Complete the online form:** Fill in the required details, including your passport number, visa details, and Australian address.
4. **Submit the application:** Once the form is completed, submit it online.
5. **Wait for your TFN:** It can take up to 28 days to receive your TFN by mail.

To apply for a TFN online, you must:

- be 15 years old or older
- have an Australian passport – it can be up to 3 years expired
- be an Australian citizen – that is people who either
 - are born in Australia
 - have a citizenship certificate
- have at least one other Australian identity document – for example, a driver's licence.

You will also need to set up a [Strong myID](#).

If you don't have a passport, apply using the [Australian residents – TFN application](#).

Options to apply

As an Australian resident your options to apply depend on the identity documents you can provide. You can:

- [apply at Australia Post](#) – using the online form and by presenting your identity documents
- [apply at a Services Australia centre](#) – using the paper form
- [apply by post](#) – using the paper form.

Earning an Income Activity

Earning an income is an important part of life. Even if you're not currently employed, it's likely that you will be in the future. People primarily earn an income by working in exchange for a salary, hourly wage, casual payment, commission, or through being compensated for individual projects (in the case of contractors). Let's explore these various sources of incomes, along with their respective advantages and disadvantages.

Salary: This is a fixed amount paid for the year, irrespective of how many hours are spent working. Payments can be made weekly, fortnightly or monthly. As the salary is a fixed amount, this will assist with budgeting. However, if a busy period at work transpires you may be required to work extra hours without any extra pay.

Wage: This method of income is typically paid weekly to permanent employees. The amount earned is determined by an hourly rate and a specified number of hours worked per week. If extra hours are required for you to work, you will be paid for this. However, there may be no incentive to work more efficiently, since your pay is fixed to a time and not the level of effort.

Casual: This is a set hourly rate paid to non-permanent employees who are hired according to need. The casual rates are generally higher to compensate for the fact that there are no set hours, sick leave or holiday pay.

Commission: This payment is a percentage of the total value of goods sold. It is different from a wage or a salary because it is dependent on the person making a sale in order to receive compensation, irrespective of hours worked. For example, a car salesperson will be given a base salary (a retainer) and a percentage of their total sales. The base salary tends to be low as an incentive for you to sell as many products as possible to increase your overall pay.

Piece work: Under this system, a worker would receive a set rate for each product or service they produce. They are paid based on quantity (output) rather than time. For example, a clothes manufacturer might be paid per t-shirt that they produce, rather than an hourly rate or yearly salary. This allows you flexibility to make as many products as you like to increase your income. However, your income relies on the demand for your product or service.



Question One

Complete the following sentences using the terms listed in the word bank below.

Word Bank

percentage

casual

hours

piece work

fixed

The quantity of work completed per task is referred to as _____.

An employee earns a commission which is based on a _____ of the goods sold.

A _____ amount paid for a year's worth of work is known as a salary.

A permanent employee receives an hourly wage for a specified number of _____ worked.

Being a _____ employee means you are classified as a non-permanent employee who is paid hourly in exchange for work.

Question Two

Match the following advantages and disadvantages to the type of income.

Advantages	Income	Disadvantages
Consistent yearly which helps with budgeting and financial planning.	Casual	The income will vary depending on the demand for your services.
Consistent pay and if additional hours are worked you will be paid for this.	Piece Work	The pay may be low as an incentive to sell products. If you do not sell anything you will not receive much of an income.
A higher rate of pay is given to compensate for not being a permanent employee.	Wage	There may be no incentive to work more efficiently, since your pay is fixed to a time and not effort.
Income can be increased based on an employee's success. The greater the sales, the higher the income.	Salary	No holiday or sick pay. No permanency of employment making budgeting more difficult.
The harder you work the more you earn. You can choose how many pieces you want to produce.	Commission	Potentially being required to work additional hours for which you are not compensated.

Question Three

In the table below, an example of a type of job is listed in the income category. Find two more examples of employment for each income category. You might need to do some extra research to complete this question.

Income	Examples of Employment
Salary	Teacher
Wage	Cleaner
Casual	Waiter/Waitress
Commission	Real Estate Agent
Piece Work	Artist



Bank Statement

Fill in the missing information on this bank statement.

Account Details
Name: Miss J. Twinkl
Sort code: 85 – 92 – 00
Date: June 2018
Account No: 011 526 8192

DD = Direct Debit	CR = Credit
CH = Charges	DC = Debit Card
CQ = Cheque	ATM = Cash
SO = Standing Order	Withdrawal

Transactions					
Date	Code	Details	Out (£)	In (£)	Balance (£)
		Balance brought forward			450.00
1 Jun	DD	Water Company	30.00		
5 Jun	ATM	Cash withdrawal			400.00
14 Jun	CQ	Cheque paid in			424.00
15 Jun	DD	Broadband	30.00		394.00
17 Jun	ATM	Cash withdrawal			374.00
19 Jun	DD	Mobile phone	12.00		
23 Jun	SO	Savings	50.00		312.00
26 Jun	CR	Salary		1000.00	
26 Jun	ATM	Cash withdrawal			1212.00
26 Jun	DD	Gym	25.00		1187.00
26 Jun	CR	Refund from supermarket		13.00	
26 Jun	DC	Petrol	45.00		1155.00
26 Jun	DC	Restaurant	30.00		
30 Jun	ATM	Cash withdrawal	50.00		1075.00

Account Summary	
Total paid in (£): 1037.00	Total paid out (£): _____
Opening balance (£): _____	Closing balance (£): 1075.00

Income Activity

Comparing Incomes Activity

Income is the money that someone earns and it mostly comes from paid work.

- People in professional jobs usually get a fixed annual *salary*, which they might receive every fortnight or month.
- Casual workers typically earn a *wage* based on the number of hours they work. This hourly rate can change if they work on weekends or public holidays. This higher rate is called *overtime*.
- Salespeople often receive a weekly payment called a *retainer*, plus a *commission*, which is a percentage of their sales.

Answer the following questions.

Question One



Council Worker
 Receives a salary of \$75 000 per year.



Shop Assistant
 Receives a wage of \$29.80 per hour.


- a. Calculate how much a council worker earns per week. Round your answer to the nearest cent.

- b. If the shop assistant works on average 20 hours per week, calculate their yearly income.

- c. If the shop assistant doubles their hours to 40 hours a week, determine if the shop assistant will earn more than the council worker for the year.

Question Two

Lisa and Fran are both looking for part-time work and they see the following available positions:



Cafe Assistant
 \$10.75 per hour \$15.20 per hour on weekends and public holidays.



Office Assistant
 \$530 per month for 10 hours of work per week.

- a. Lisa gets the job as the office assistant. Calculate Lisa's hourly pay and how much she will earn per week.

- b. Fran gets the job as the cafe assistant and in her first week works 6 hours during the week and 4 hours over the weekend. Find her total earnings for the week.

- c. Calculate the difference between their weekly incomes.

- d. Explain if it is possible for Fran to earn more in subsequent weeks.

Question Three

Car Salesperson

Receives a retainer \$5267 per month plus a commission of 0.5% on the value of the goods sold.



Real Estate Agent

Receives a retainer of \$4500 per month plus a commission of 0.2% on the value of goods sold.



- a. If the car salesperson sells cars worth \$195 000 during the month, calculate their earnings for that month.

- b. If the real estate agent sells a house worth \$650 000 for the month, calculate their earnings for that month.

- c. In the next month, the car salesperson sells \$220 000 worth of vehicles while the real estate agent sells \$985 000 worth of property. Calculate each person's income for this month. Determine which person has earned more money.

Question Four



Hairdresser
 Receives \$32.60 an hour and receives time and a half on the weekend.

Makeup Artist
 Receives \$24.50 an hour and receives double time on the weekend.



a. Calculate the hairdresser’s overtime hourly pay.

b. Calculate the hairdresser’s weekly wage if they work 12 hours during the week and 4 hours over the weekend.

c. Calculate the makeup artist’s overtime hourly pay.

d. Calculate the makeup artist’s weekly wage if they work 12 hours during the week and 4 hours over the weekend.

e. Identify who receives more income for the week and calculate the difference.

Plan Your Budget

Knowing your budgets and allowing room for savings is a very useful skill to have. One way to do this can be to estimate your monthly earnings and spendings.



1. Can you fill in how much money is leftover from the examples below?

Item	Amount
income	\$2000
living	-\$550
food	-\$300
tax	-\$150
travel	-\$150
fun	-\$280
Leftover	

Item	Amount
income	\$2500
living	-\$900
food	-\$350
tax	-\$200
travel	-\$250
fun	-\$480
Leftover	

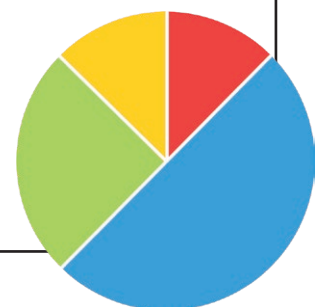
Item	Amount
income	\$4500
living	-\$1800
food	-\$550
tax	-\$250
travel	-\$350
fun	-\$700
Leftover	

One way of saving better is to plan where you spend. A friend is having some problems trying to budget their money because they want to buy a new laptop in 6 months but it will cost \$1500.

Item	Amount per month
income	\$1600
required costs, e.g. living, food, tax	-\$1000
going out	-\$200
meals out	-\$180
snacks	-\$30
take-away coffee	-\$40
clothes shopping	-\$150
Leftover	

2. How much will they need to save per month to afford the laptop?

3. Take a look at their spending on non-essential items, where can they make cuts to save more money?



Money Problems (A)



Section A Calculate the additions and subtractions with money.

$$\begin{array}{r} 1) \quad \text{£ } 3 \text{ . } 2 \text{ } 5 \\ + \text{£ } 2 \text{ . } 1 \text{ } 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad \text{£ } 8 \text{ . } 7 \text{ } 7 \\ + \text{£ } 0 \text{ . } 9 \text{ } 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad \text{£ } 9 \text{ . } 4 \text{ } 6 \\ + \text{£ } 8 \text{ . } 6 \text{ } 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4) \quad \text{£ } 1 \text{ . } 0 \text{ } 0 \\ - \text{£ } 0 \text{ . } 5 \text{ } 9 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5) \quad \text{£ } 2 \text{ . } 0 \text{ } 0 \\ - \text{£ } 1 \text{ . } 3 \text{ } 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6) \quad \text{£ } 5 \text{ . } 0 \text{ } 0 \\ - \text{£ } 2 \text{ . } 2 \text{ } 9 \\ \hline \\ \hline \end{array}$$

$$7) \text{ £}1.27 + \text{£}0.89 =$$

$$8) \text{ £}2.00 - \text{£}1.09 =$$

$$9) \text{ £}5.00 - \text{£}3.16 =$$

Section B Find the change given for the amounts.

Price	Change from £1	Change from £2
45p		
81p		
9p		
£1.14		

Price	Change from £5	Change from £10
£3.70		
£2.99		
68p		
£7.49		

Money Problems (B)



Section A Calculate the multiplications and divisions with money.

$$\begin{array}{r} 1) \quad \text{£ } 3 \text{ . } 2 \text{ } 5 \\ \times \quad \quad \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2) \quad \text{£ } 6 \text{ . } 9 \text{ } 7 \\ \times \quad \quad \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3) \quad \text{£ } 1 \text{ } 7 \text{ . } 4 \text{ } 8 \\ \times \quad \quad \quad 9 \\ \hline \\ \hline \end{array}$$

$$4) \quad \begin{array}{r} \text{£ } 7 \text{ . } 9 \text{ } 2 \\ 3 \overline{) \phantom{\text{£ } 7 \text{ . } 9 \text{ } 2}} \end{array}$$

$$5) \quad \begin{array}{r} \text{£ } 6 \text{ } 1 \text{ . } 3 \text{ } 6 \\ 4 \overline{) \phantom{\text{£ } 6 \text{ } 1 \text{ . } 3 \text{ } 6}} \end{array}$$

$$6) \quad \begin{array}{r} \text{£ } 3 \text{ } 9 \text{ } 1 \text{ . } 9 \text{ } 2 \\ 8 \overline{) \phantom{\text{£ } 3 \text{ } 9 \text{ } 1 \text{ . } 9 \text{ } 2}} \end{array}$$

7) $\text{£}1.56 \times 7 =$

8) $\text{£}42.18 \div 3 =$

9) $\text{£}719.46 \div 9 =$

Section B Work out how many items you can purchase with the following.

Item Cost	Quantity with £1	Quantity with £2
35p		
23p		
8p		
£1.15		

Item Cost	Quantity with £5	Quantity with £10
£1.99		
£2.25		
44p		
13p		

Best Value for Money - The Unitary Method



The **unitary method** is useful for cost calculations and price comparisons.

Example

A pack of 7 lemons costs £2.45.
How much would 3 lemons cost?

$$\begin{array}{l} 7 \text{ lemons} = £2.45 \\ 1 \text{ lemon} = £0.35 \\ 3 \text{ lemons} = £1.05 \end{array}$$

$\div 7$
 $\times 3$

Section A

1) If 6 pens cost £1.62 How much does 1 pen cost?	2) If 3 books cost £18.90 How much does 1 book cost?
3) If 15kg of dog food costs £37.50 How much does 1kg cost?	4) If 9L of diesel costs £13.05 How much does 1L cost?

Section B

1) If 6 tickets to a museum cost £27.30 How much would 5 tickets cost?	2) If 6m of fabric costs £15.60 How much would 10m cost?
3) If a pack of 5 tee-shirts cost £15.12 How much would 7 cost?	4) If 6 330ml cans of lemonade cost £1.92 How much would 14 cans cost?

Section C

Choose the option that represents best value for money.
Show how you get your answer.

1) Mr G the Plumber charges £65 per hour and Mrs P the Plumber charges £440 for an 8 hour day.	2) A single oranges costs 35p or a pack of 5 oranges that costs £1.90.
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Exchange Rates



Section A: Use the exchange rates given to find the missing values.
Remember, all answers should be given to 2 d.p. when calculating with money.

1)

\$1.65 Canadian Dollars	=	£1 British Pound
		£ 2
		£ 5

2)

¥ 8.50 Chinese Yuan	=	£1 British Pound
		£ 30
		£ 250

3)

GHC 10.79 Ghanaian Cedi	=	£1 British Pound
		£ 7.50
		£ 51.20

4)

\$1.21 US Dollar	=	£1 British Pound
\$ 8		
\$ 324		

5)

¥ 160 Japanese Yen	=	£1 British Pound
¥ 1020		
¥ 11050		

6)

F1.12 Swiss Francs	=	£1 British Pound
F 444		
F 1295		

7)

€ 1.15 Euro	=	£1 British Pound
		£ 18
€ 114		

8)

\$185 Jamaican Dollars	=	£1 British Pound
\$ 4200		
		£ 115

9)

IKr 159.58 Icelandic Krona	=	£1 British Pound
		£ 20
IKr 239,370		

Section B: Use the amounts given to work out the exchange rates and then fill the gaps.

1)

₣	=	£ 1 British Pound
Danish Krone		
₣ 2191.12		£ 244
		£ 946

2)

R	=	£ 1 British Pound
Brazilian Real		
R 2077.50		£ 554
R 13725		

3)

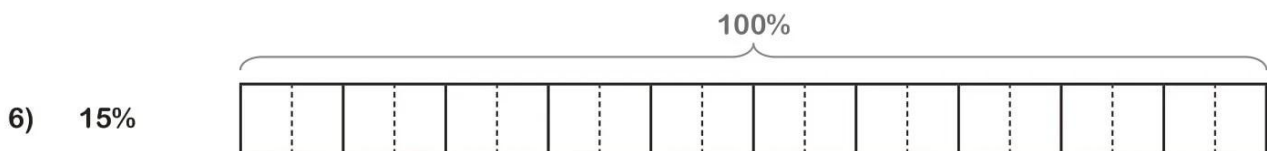
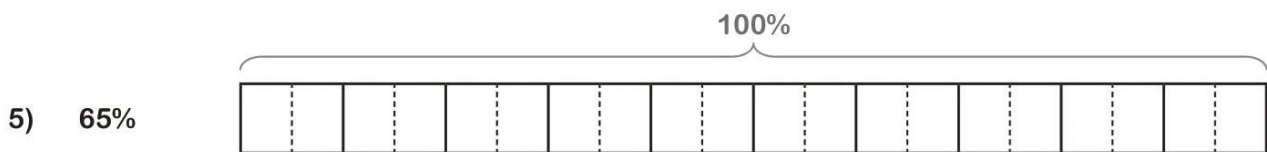
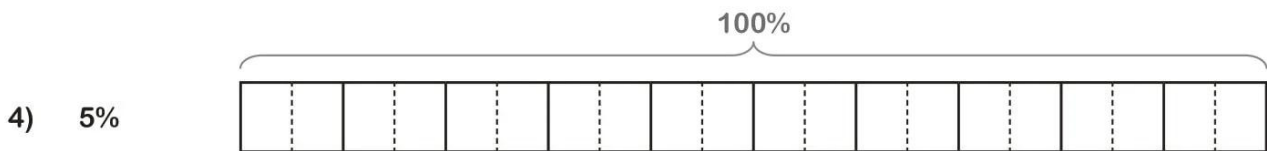
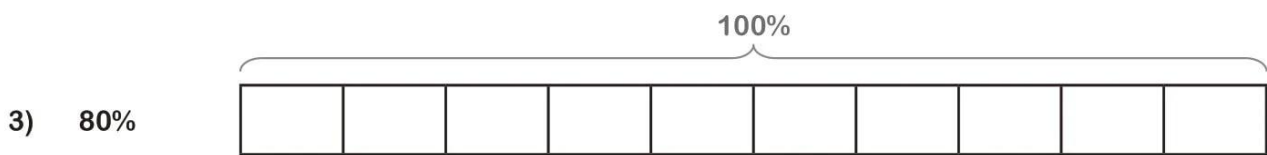
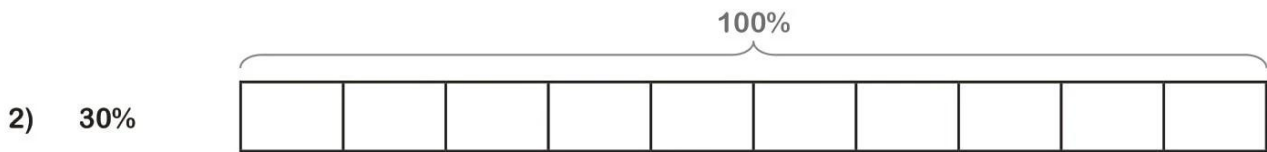
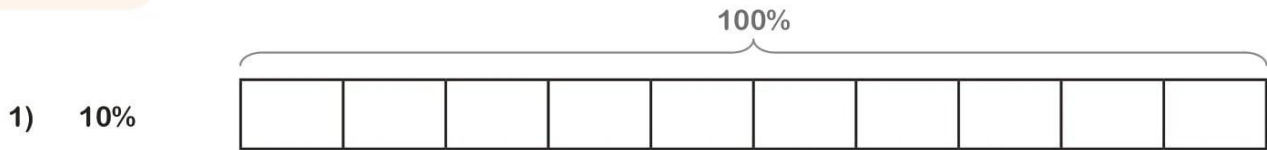
₱	=	£ 1 British Pound
Mexican Pesos		
₱ 17133.39		£ 801
₱ 44063.40		

Percentages of Amounts - Using a Bar Model (A)



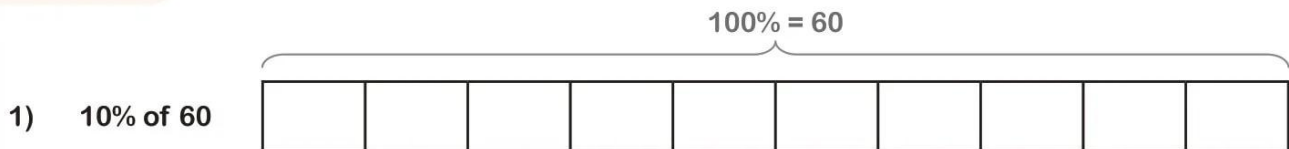
Section A

Shade the required percentage on each bar model.

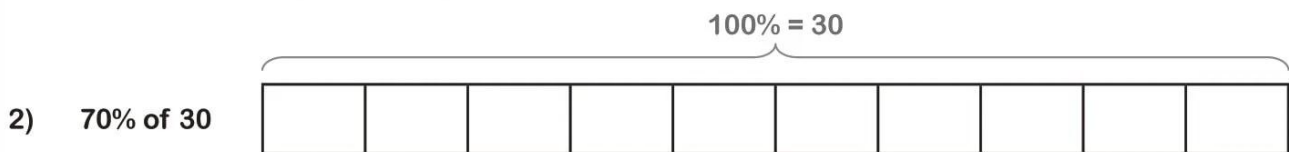


Section B

Use the bar models provided to find the percentage of each amount.

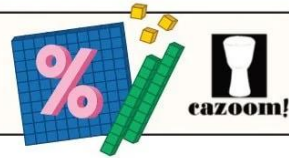


10% of 60 =



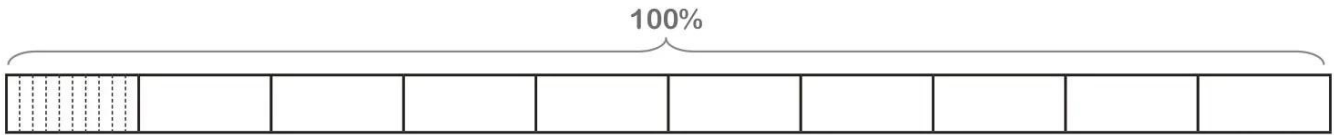
70% of 30 =

Percentages of Amounts - Using a Bar Model (B)



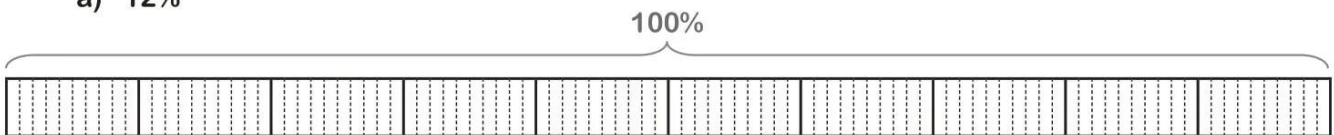
Section A

- 1) Explain how this bar model can be used to show and calculate 1%.

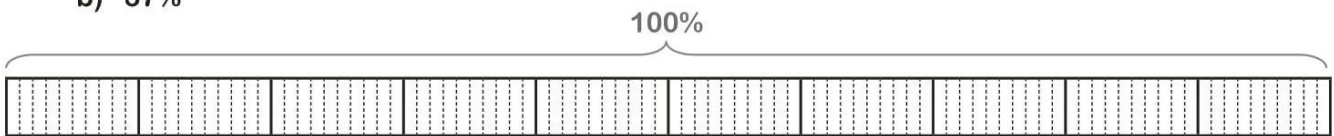


- 2) Shade the required percentage on each bar model:

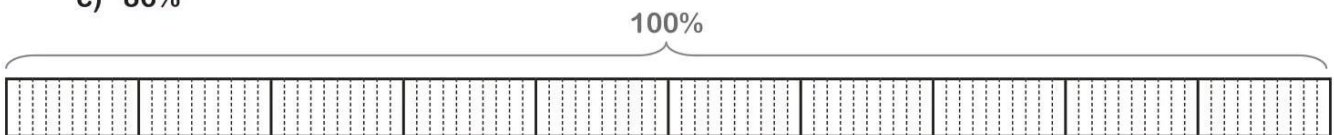
a) 12%



b) 37%

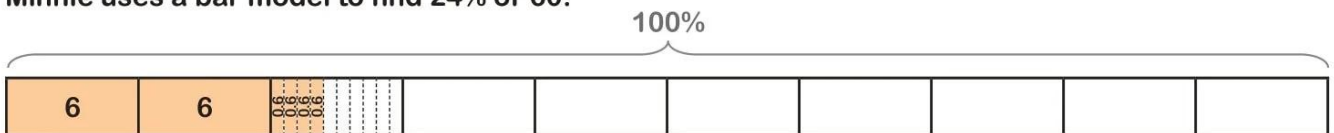


c) 86%



Section B

Minnie uses a bar model to find 24% of 60.



$$24\% = 20\% + 4\%$$

$$10\% = 60 \div 10 = 6$$

$$20\% = 10\% \times 2 = 12$$

$$1\% = 6 \div 10 = 0.6$$

$$4\% = 0.6 \times 4 = 2.4$$

$$24\% = 20\% + 4\% = 12 + 2.4 = \mathbf{14.4}$$

Percentages of Amounts (B)



1) Find 60% of 100

100	50%	10%
-----	-----	-----



60%

2) Find 75% of 12

12	50%	25%
----	-----	-----



75%

3) Find 35% of 20

20	25%	10%
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35%

4) Find 40% of 80

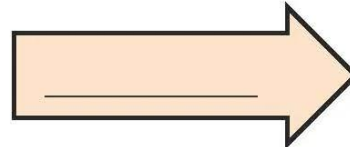
80	50%	10%
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40%

5) Find 15% of 40

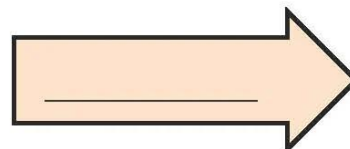
40	25%	10%
----	-----	-----



15%

6) Find 20% of 50

50	10%	10%
----	-----	-----



20%

7) Find 40% of 30

30	50%	10%
----	-----	-----



___%

8) Find 15% of 16

16	25%	10%
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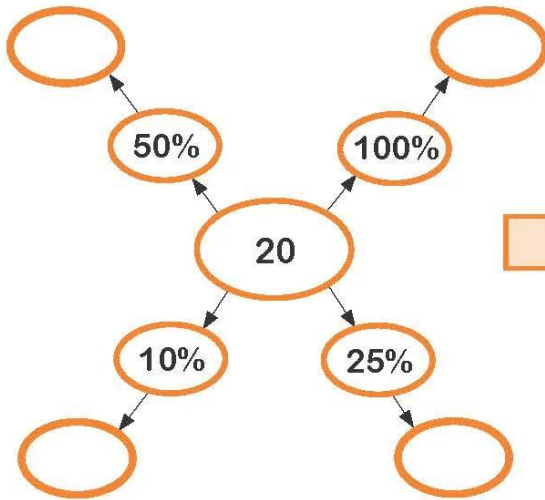


___%

Spider Percentages (B)



Complete the spider diagram and use the values to find the other percentages

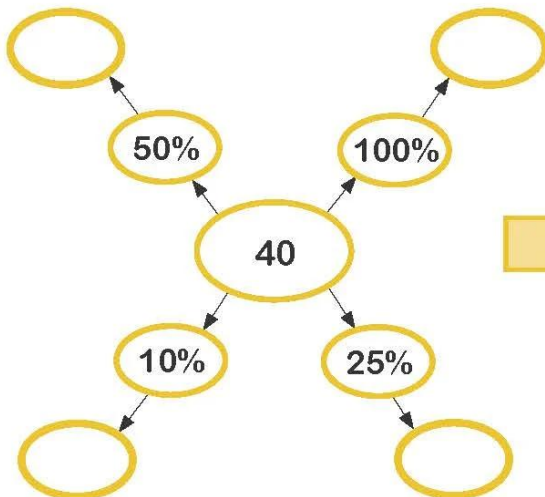


20% of 20 =

60% of 20 =

35% of 20 =

75% of 20 =

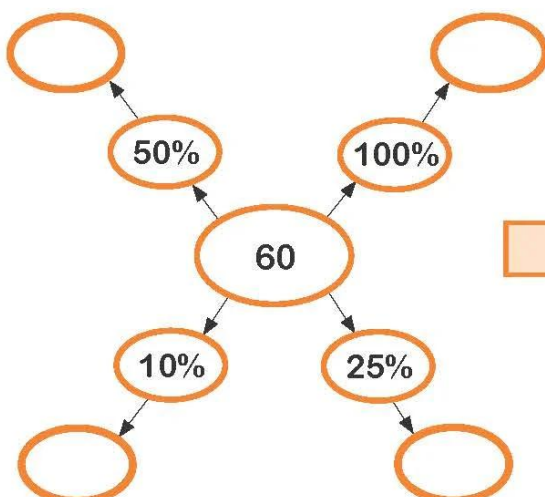


20% of 40 =

90% of 40 =

5% of 40 =

75% of 40 =



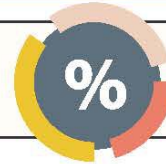
40% of 60 =

60% of 60 =

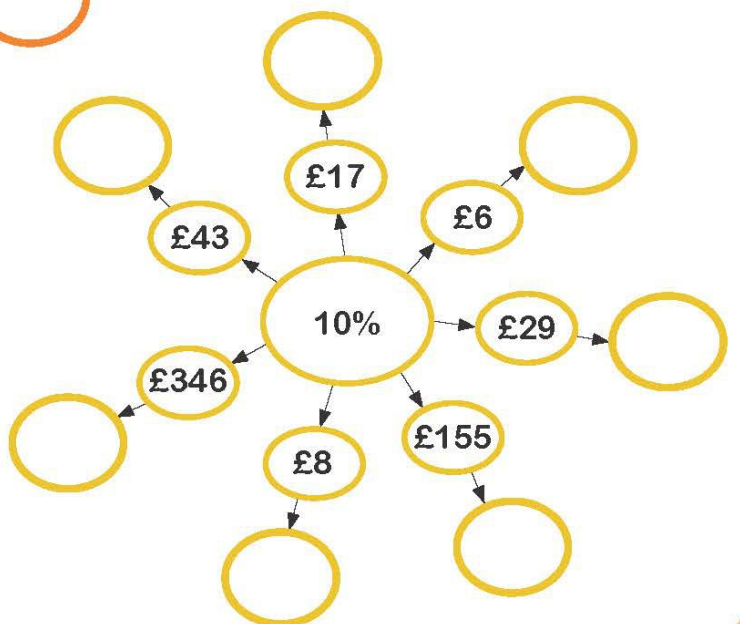
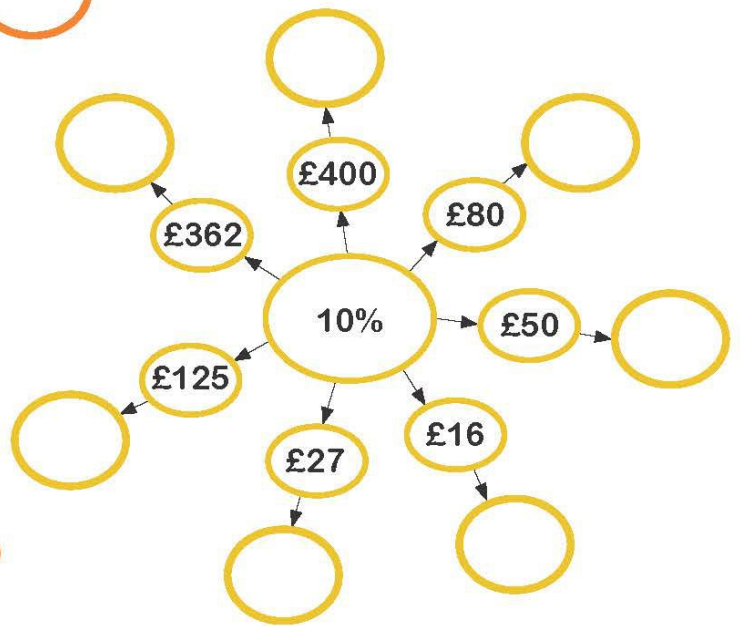
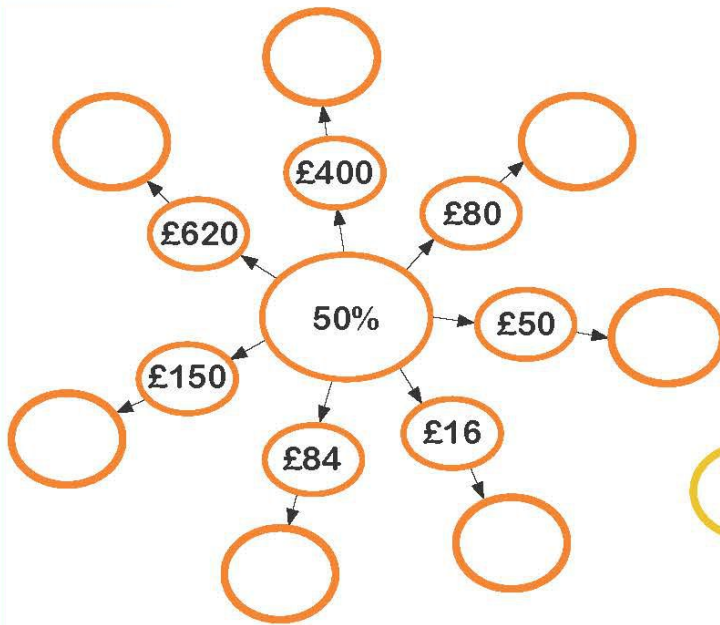
35% of 60 =

90% of 60 =

Percentages of Amounts (A)



Section B Find the percentages of the amounts.



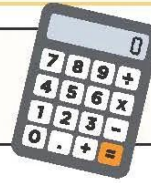
Percentages of Amounts 10 Minute Challenge



How many questions can you answer correctly in 10 minutes?

- | | | | | | |
|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| 1) Find 10% of 90 | <input type="text"/> | 17) Find 20% of 80 | <input type="text"/> | 33) Find 35% of 20 | <input type="text"/> |
| 2) Find 10% of 130 | <input type="text"/> | 18) Find 20% of 110 | <input type="text"/> | 34) Find 35% of 290 | <input type="text"/> |
| 3) Find 10% of 85 | <input type="text"/> | 19) Find 20% of 61 | <input type="text"/> | 35) Find 35% of 56 | <input type="text"/> |
| 4) Find 10% of 6 | <input type="text"/> | 20) Find 20% of 3 | <input type="text"/> | 36) Find 35% of 9 | <input type="text"/> |
| 5) Find 25% of 60 | <input type="text"/> | 21) Find 30% of 70 | <input type="text"/> | 37) Find 85% of 50 | <input type="text"/> |
| 6) Find 25% of 280 | <input type="text"/> | 22) Find 30% of 210 | <input type="text"/> | 38) Find 85% of 220 | <input type="text"/> |
| 7) Find 25% of 72 | <input type="text"/> | 23) Find 30% of 25 | <input type="text"/> | 39) Find 85% of 88 | <input type="text"/> |
| 8) Find 25% of 8 | <input type="text"/> | 24) Find 30% of 2 | <input type="text"/> | 40) Find 85% of 6 | <input type="text"/> |
| 9) Find 50% of 50 | <input type="text"/> | 25) Find 5% of 10 | <input type="text"/> | 41) Find 1% of 600 | <input type="text"/> |
| 10) Find 50% of 170 | <input type="text"/> | 26) Find 5% of 240 | <input type="text"/> | 42) Find 1% of 230 | <input type="text"/> |
| 11) Find 50% of 43 | <input type="text"/> | 27) Find 5% of 94 | <input type="text"/> | 43) Find 1% of 30 | <input type="text"/> |
| 12) Find 50% of 7 | <input type="text"/> | 28) Find 5% of 8 | <input type="text"/> | 44) Find 1% of 91 | <input type="text"/> |
| 13) Find 75% of 40 | <input type="text"/> | 29) Find 15% of 30 | <input type="text"/> | 45) Find 4% of 900 | <input type="text"/> |
| 14) Find 75% of 260 | <input type="text"/> | 30) Find 15% of 150 | <input type="text"/> | 46) Find 4% of 870 | <input type="text"/> |
| 15) Find 75% of 32 | <input type="text"/> | 31) Find 15% of 18 | <input type="text"/> | 47) Find 4% of 40 | <input type="text"/> |
| 16) Find 75% of 5 | <input type="text"/> | 32) Find 15% of 4 | <input type="text"/> | 48) Find 4% of 32 | <input type="text"/> |

Calculator Percentages



Section A

Change the following percentages to decimals.

1) 12%

4) 45%

7) 60%

2) 26%

5) 3%

8) 90%

3) 71%

6) 6%

9) 9%

Section B

Find the percentages of amounts
(hint: Round to 2 decimal places where necessary).

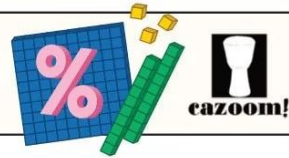
Find	11%	28%	3%
£20			
£16			
£4			
£6.50			

Find	57%	8%	2.5%
£80			
£15			
£2.12			
£0.45			

Section C

- 1) Jerome scored 70% in a Maths test. The test was out of 60. How many marks did Jerome get?
- 2) A city has a population of 2.8 million people. 45% of the population are male. How many females live in the city?

Percentage Increase - Using a Bar Model



1) Increase 70 by 10% =

100% = 70

10% =

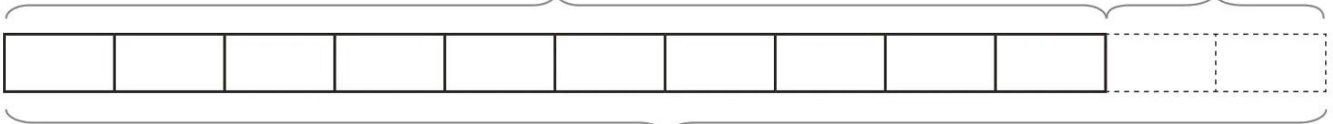


110% =

2) Increase 130 by 20% =

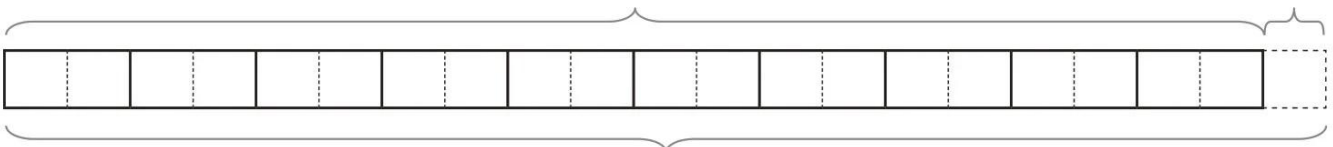
100% =

20% =

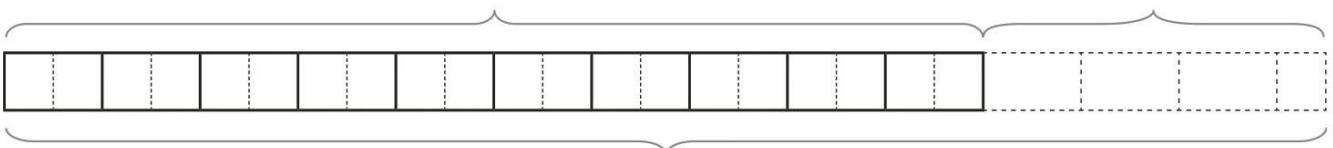


120% =

3) Increase 40 by 5% =



4) Increase 90 by 35% =

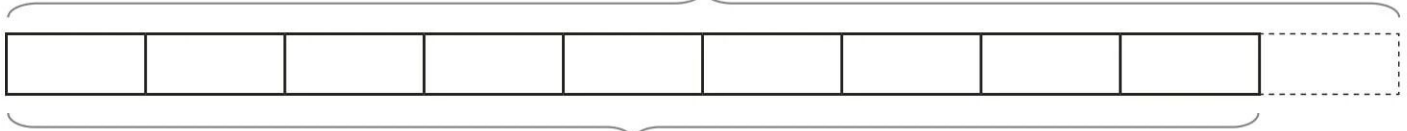


Percentage Decrease - Using a Bar Model



1) Decrease 50 by 10% =

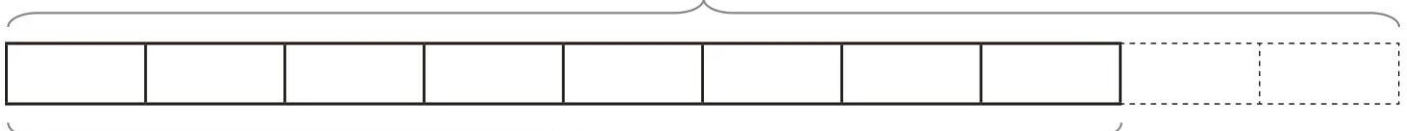
100% = 50



90% =

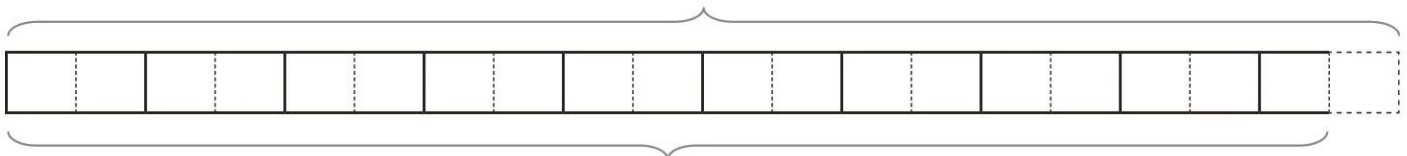
2) Decrease 80 by 20% =

100% =

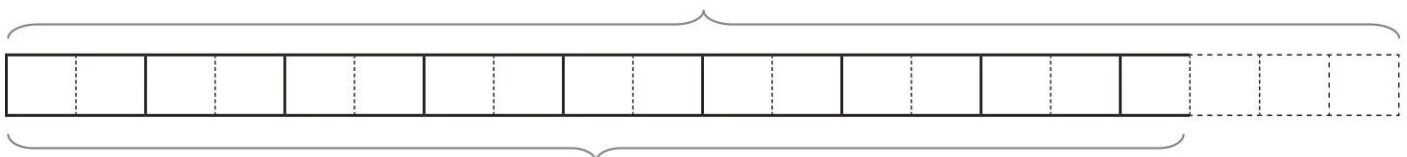


80% =

3) Decrease 120 by 5% =



4) Decrease 70 by 15% =



Percentage Change (A)



Section A Try to complete these without a calculator.

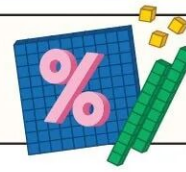
1) Complete the table and calculate the percentage increases.

Original Amount	New Amount	Actual Change	% Change
100	129		
10	18		
20	22		
5	8		
25	29		
20	37		
4	6		
400	492		
200	236		
50	59		
150	183		
25		12	
250			34 %

2) Complete the table and calculate the percentage decreases.

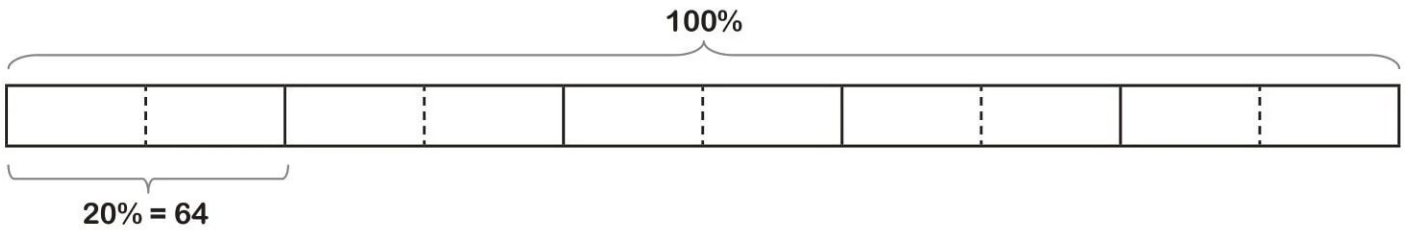
Original Amount	New Amount	Actual Change	% Change
100	96		
10	8		
20	17		
5	1		
25	24		
20	3		
4	3		
400	288		
200	146		
50	39		
150	42		
		7	28 %
	75		70 %

Reverse Percentages - Using a Bar Model (A)



Section A

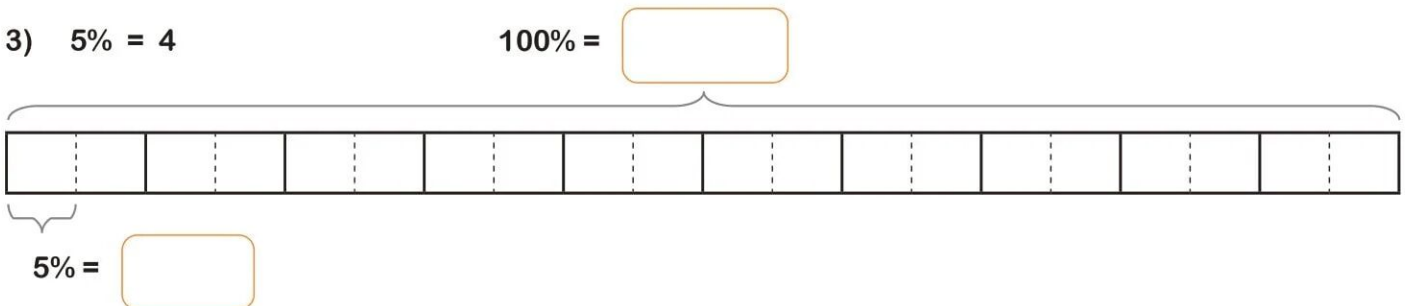
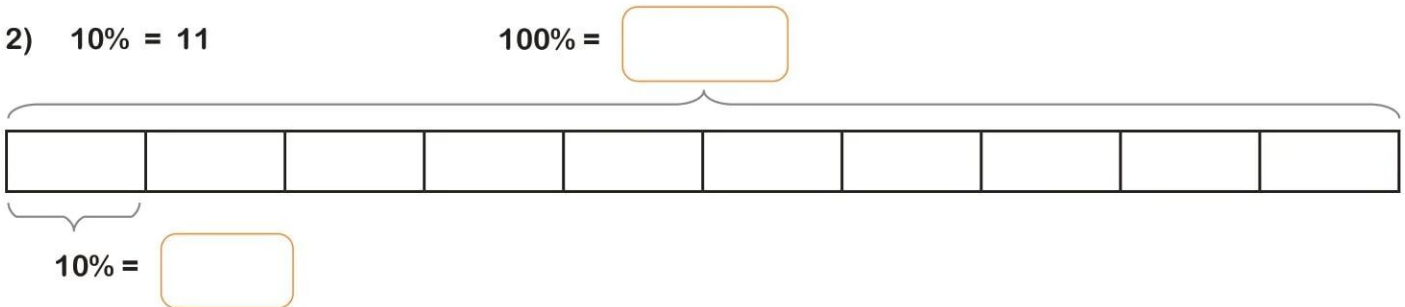
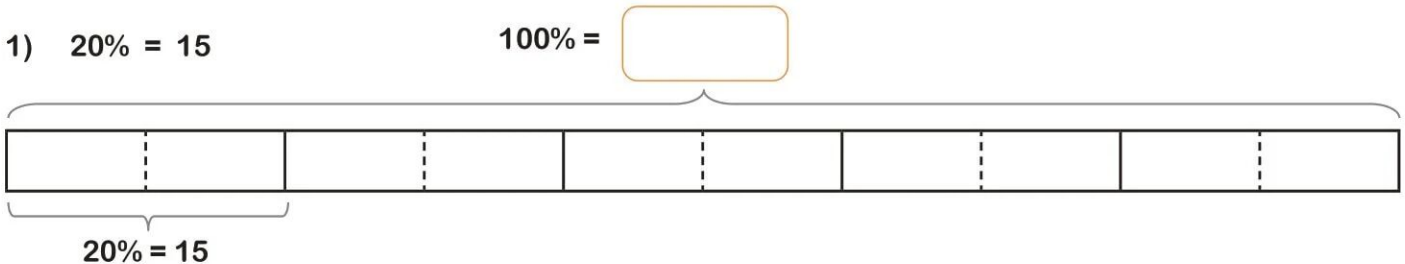
If you know that 20% of a number is 64, what else do you know?
Use the bar model to help you answer the prompts below.



40% =	60% =	80% =	100% =
10% =	5% =	1% =	
Can you find any more?			

Section B

Use the given percentages and the bar models below to find 100% (the whole/original amount).



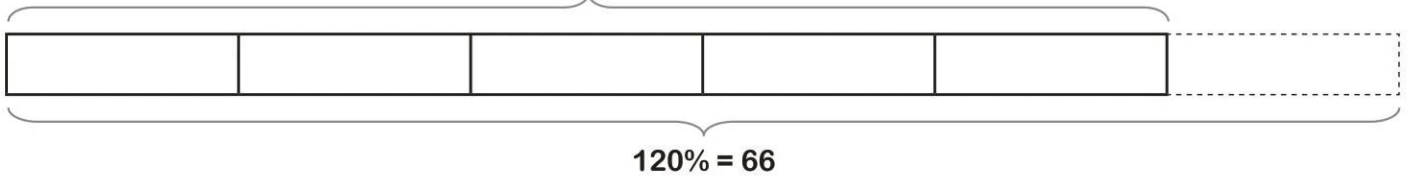
Reverse Percentages - Using a Bar Model (B)



Section A Use the bar models to find the original amount each given increase.

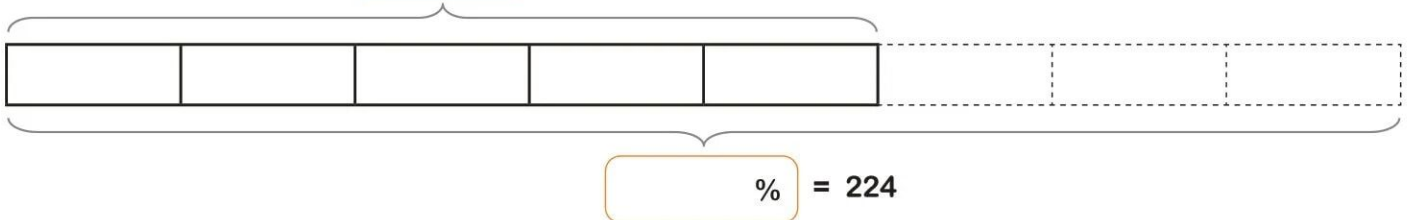
- 1) An amount is increased by 20% to 66, use the bar model to find 100% (the original amount).

100% =



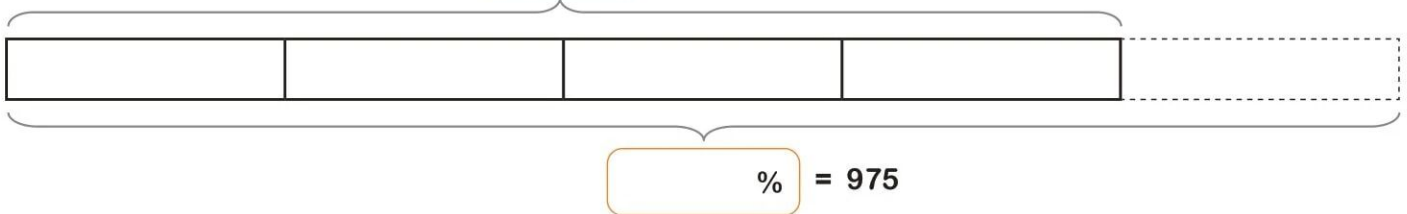
- 2) An amount is increased by 60% to 224.

100% =



- 3) An amount is increased by 25% to 975.

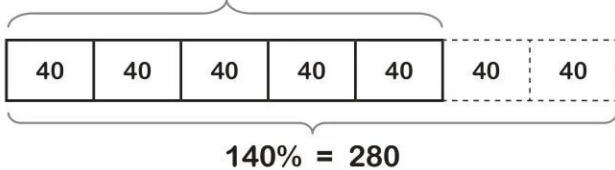
100% =



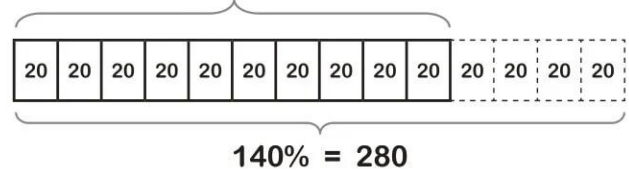
Section B Students are using bar models to calculate with percentages. Here is some of their work:

An amount is increased by 40% to 280, find the original amount.

100% =

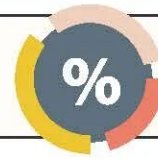


100% =



What's the same and what's different in the ways the students have used the bar models?

Finding the Original



Section A Work out how much 100% of each amount is.

	Find 100%
30% = 63 g	
20% = 45 cm	
45% = £27	
4% = 123 ml	
5% = \$38	
2.5% = 60 lb	
17.5% = £84	

Section B Find the original once it has been increased or decreased by the amounts indicated.

After a 10% increase	Original	After a 25% decrease	Original
£66		£900	
\$22		\$87	
132 cm		1050 cm	
517 kg		1687.5 kg	
After a 20% increase	Original	After a 4% decrease	Original
£15 000		£15 000	
\$4530		\$2304	
6306 mm		6144 mm	
€1 298 070		€148 128	

Calculating Goods and Services Tax (GST)

In Australia, the Goods and Services Tax (GST) is applied to the cost of most products sold or services rendered. There are some products and services that are exempt from this tax (GST-free) including but not limited to:

- basic food items
- some education courses
- some medical services and products
- religious services
- charitable activities
- childcare
- water, sewerage and drainage services
- government grants

The GST is calculated as 10% of the price.

For example, if a business was to sell a book for \$20, they would need to apply GST to this amount before setting the final price.

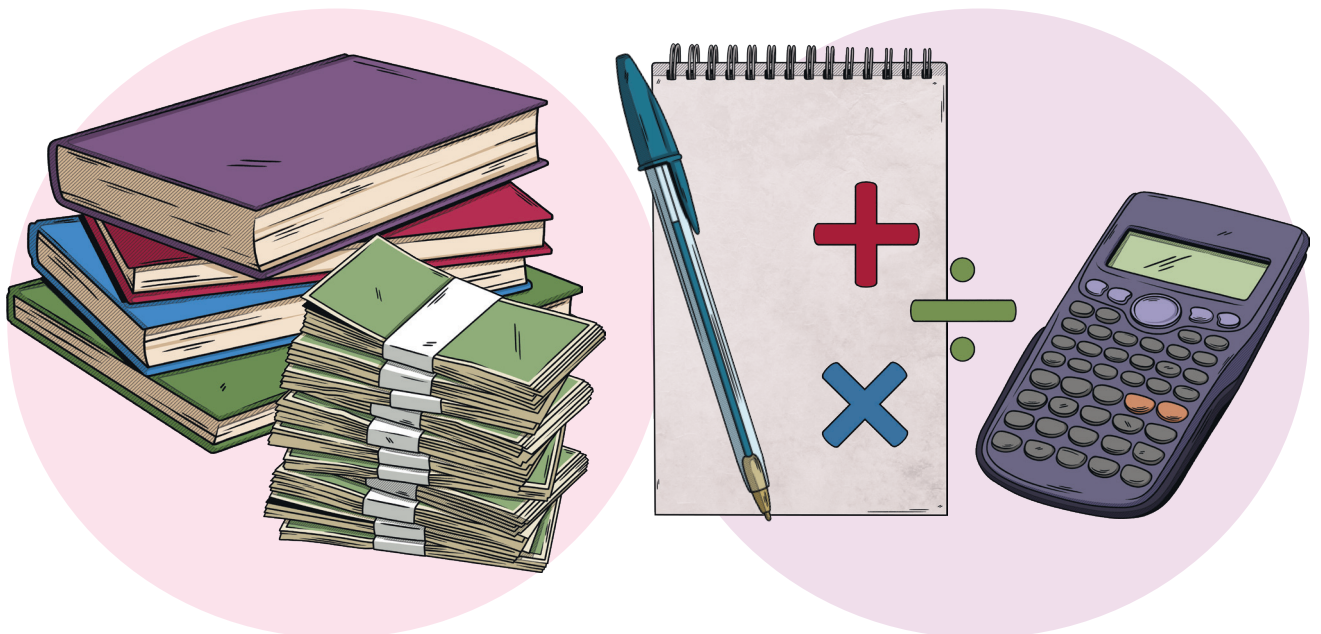
To calculate the GST, you would need to find 10% of \$20 and then add this to the original amount.

$$10\% \text{ of } \$20 = 2$$

$$20 + 2 = 22$$

The final selling price for the book would be \$22.00

In this activity, you will be using your knowledge of fractions, decimals and percentages to calculate GST.



Activity One

Calculate the sale price for each of the items in the list below. Remember that you can find the GST using different strategies.

Hint:

- Using the decimal = multiply 0.1 by the item price
- Using the fraction = divide the item price by 10

Item Price	GST	Sale Price (Item Price + GST)
Icecream \$4		
Book \$12		
Hat \$28.50		
Television (TV) \$395		



Activity Two

One of the easier ways to calculate GST is to use our understanding of decimals to skip a step.

For example, the cost of the book is \$20 (100%). However, the business must add the GST of \$2 (10%) to this amount in order to work out the sale price.

$$\$20 + \$2 = \$22$$

$$100\% + 10\% = 110\%$$

OR

$$1 + 0.1 = 1.1$$

If we were to multiply the original amount by 1.1 we would get the sale price including GST.

$$20 \times 1.1 = 22$$

Apply this method to calculate the sale price in each row of the table.

Hint: You might need the help of your calculator for some of these calculations.

Item Price	Sale Price
Shirt \$50	
Headphones \$79	
Gaming Console \$489	
Sunglasses \$49.95	
Mobile Phone \$759.50	



Activity Three

In this activity, we are going to determine the GST that has been added onto the item price. For example, you know that the business has been selling the book for \$22. This is the original amount plus the GST. So how do you work backwards?

Remember that in the previous example, we determined that \$22 could be calculated by dividing the original \$20 by 10 and then adding one more part. Consequently, \$22 represents 110%, 1.1 or 11 parts.

Let's try dividing 22 by 11.

$$22 \div 11 = 2$$

Multiply this amount by 10 to get the original amount or 100%

$$2 \times 10 = 20$$

Sale Price	GST	Item Price
Toaster \$44		
Chocolate \$3.30		
Shoes \$110.00		
Fragrance \$82.50		
T-shirt \$26.40		

Activity Four

In a similar way to Activity Two, there is an easier way to calculate the original price.

Can you guess what this might be?

That's right - we can divide by 1.1!

This is because the sale price is equivalent to 110%, 1.1 or 11 parts.

Find the original price from the sale price by dividing by 1.1.

Item Price	Sale Price
Nail Polish \$6.60	
Pet Toy \$16.50	
Watch \$143.00	
Set of Tyres \$528	
Laptop \$726	

This resource is provided for informational and educational purposes only. As far as possible, the contents of this resource are reflective of professional research as of the 20th of April 2024. This resource is not intended to replace professional training. If you require financial advice, you should contact a suitably qualified finance professional.

How Is Income Tax Calculated?

Everybody has to pay taxes. Income tax is a tax on any money you earn. This is not just paid work. For example, if you rent out a house you will need to pay tax on this. If you get a company car, you will also need to pay tax on this.

However, there is a set amount (a personal tax allowance) on which the government cannot tax your income. For most people, this personal tax allowance is £11 500. Any income above this set amount, however, is still subject to tax.

$$\text{Taxable income} = \text{annual income} - \text{personal tax allowance}$$

Basic rate

20% of the first £33 500 minus the personal tax allowance.

Higher rate

40% of the taxable income above £33 500 and up to £150 000.

Additional rate

45% of the taxable income above £150 000.

Example

Kenan earns £50 000 per annum. The first £11 500 of this is tax free.

$33\,500 - 11\,500 = £22\,000$ of his income is taxed at 20%

$50\,000 - 33\,500 = £16\,500$ of his income is taxed at 40%



Activity

Assuming that the personal tax allowance is set at £11 500, calculate the taxable income for each person.

Calculate the amount of income tax each person pays per annum.

Hence calculate the amount of monthly take-home pay each person receives.



1) Jessica earns £15 000 per year.

2) Mara earns £62 000 per annum.

3) Charlie earns £3000 per month.

4) Jordan earns £250 per week.



5) Elise earns £110 000 per annum.

Challenge

Does a person earning £20 000 pay half the tax of someone earning £40 000?



Simple Interest



Section A

Original investment, P	Interest rate, r , per annum	Time period, t , years	Find the interest rate of the investment, Pr	Interest over the time period, Prt	Final amount, A
Example £100	10%	2 years	10% of 100 = 10	$10 \times 2 = \text{£}20$	$100 + 20 = \text{£}120$
£100	10%	10			
£100	5%	2			
£2,000	5%	2			
£2,000	2.5%	2			
£3,500	2.5%	2			
£3,500	2.5%	7			
£3,500	4%	7			
£4,600	1.5%	5			
£1,300	0.2%	3.5			

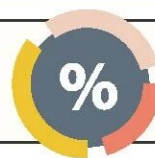
Section B

- 1) Use the correct calculation below to work out:
“£2,200 is invested for 6 years at 3% simple interest per year.
Work out the total interest earned.”

$2000 \times 1.03 \times 6$	$2000 \times 3 \times 6$	$2000 \times 0.03 \times 6$
-----------------------------	--------------------------	-----------------------------

- 2) £1,200 is invested for 4 years at 3% simple interest per year.
Work out the total interest earned.
- 3) £950 is invested for 5 years at 4% simple interest per year.
Work out the total amount after 5 years.
- 4) £1,800 is invested for 9 years at 2.1% simple interest per year.
Work out the total amount after 9 years.

Compound Interest



Section A

Work out the amount at the end of each year if money is invested at the interest rate specified.

Year	Amount	Interest Rate	Calculation	Amount at the end of the year
1	£1530	2%		
2	£1560.60	2%		
3		2%		
4		2%		

Year	Amount	Interest Rate	Calculation	Amount at the end of the year
1	£2999	3.5%		
2		3.5%		
3		3.5%		
4		3.5%		

- Write down a formula to calculate the final amount £A of an investment £P, after n years at a compound interest rate of r%.
- Now use your formula to write down one to find just the interest earned after n years.

Section B

Work out the amount after n years if money is invested at the interest rate specified.

Years (n)	Amount	Interest Rate (pa)	Amount after n years
3	£720	4%	
6	£400	3%	
8	£1800	2.1%	

Years (n)	Amount	Interest Rate (pa)	Amount after n years
7	£7850	6.4%	
5	£3999	3.05%	
4	£10 045	$4\frac{1}{2}\%$	

Interest Comparisons



There are different formulae for calculating Simple and Compound interest:

Simple Interest

$$A = P(1 + rt)$$

Where: A = the final amount
 P = the original investment
 r = the % rate (in decimal form)
 t = the time period

Compound Interest

$$A = P(1 + r)^n$$

Where: A = the final amount
 P = the original investment
 r = the % rate (in decimal form)
 n = the number of times the interest is applied

Section A Show which type of interest gives the largest final amount.

1. £1000 is invested for 2 years.
Simple interest of 4%.
Compound interest of 4% per annum.

2. £765 is invested for 3 years.
Simple interest of 2.5%.
Compound interest of 2.5% per annum.

3. £2,400 is invested for 5 years.
Simple interest of 1.6%.
Compound interest of 0.9% per annum.

4. £19,000 is invested for 7 years.
Simple interest of 2%.
Compound interest of 1.9% per annum.

Compound Interest - Problem Solving



Compound Interest

$$A = P(1 + r)^n$$

Here is the formula used to calculate compound interest:

Where: A = the final amount
 P = the original investment
 r = the % rate (in decimal form)
 n = the number of times the interest is applied

Section A Finding the Time Period

1) £1,000 is invested in a savings account that gives 3% compound interest per annum. After x years, there is £1,159.27 in the account.
Calculate the value of x , the number of years that the money has been in the account for.

2) £1,000 is invested in a savings account that gives 2.4% compound interest per annum.
After x years, there is £1,208.93 in the account. Calculate the value of x , the number of years that the money has been in the account for.

3) £3,600 is invested in a savings account that gives 2.4% compound interest per annum.
After x years, there is £3,865.47 in the account. Calculate the value of x , the number of years that the money has been in the account for.

4) £2,300 is invested in a savings account that gives 4% compound interest for the first year and 0.8% per annum for each year after that.
After x years, there is £2,469.47 in the account. Calculate the value of x , the number of years that the money has been in the account for.

Section B Finding the Initial Investment

1) Some money is invested for 3 years in a savings account. The account earns 3% per annum compound interest.
After 3 years, there is £1,365.91 in the bank account. Calculate the how much was invested.

2) Some money is invested for 3 years in a savings account. The account earns 3.5% per annum compound interest.
After 3 years, there is £2,993.54 in the bank account. Calculate the how much was invested.

Percentage Problems



Section A

1) Match each scenario to the relevant multiplier.

Compound interest of 4% each year for 3 years

Decrease by 40%

Find 40%

Simple interest of 4% each year for 3 years

Increase by 40%

$\times 0.4$

$\times 1.4$

$\times 0.6$

$\times 1.12$

$\times 1.04^3$

2) Match each scenario to the relevant calculation.

Benji saves 35% of his £162 birthday money. How much money does he save?

162×0.65

After a 35% pay rise, Zara earns £162 per week. How much did Zara earn per week before her pay rise?

$162 \div 0.65$

A coat that originally costs £162 is reduced by 35% in a sale. What is the sale price of the coat?

162×0.35

Xander earns £162 per week and is given a 35% pay rise. How much does Xander earn per week after the pay rise?

162×1.35

A pair of boots are reduced by 35% in a sale. The sale price of the boots is £162, what was the original price?

$162 \div 1.35$

Section B

Answer the following questions, you should show all of your workings.

1) Angharad scored 16 out of 25 on a mental arithmetic test.

What was Angharad's percentage score?

2) Last year Alicia's christmas shopping budget was £1,200.

This year her budget decreased to £1,090. What was the percentage decrease in Alicia's budget? Give your answer to 2 significant figures.

3) Sunnydale High has 124 Year 8 students. Mr. Summers says 72% are going on a school trip. Do you agree with Mr Summers?

Explain your reasoning.

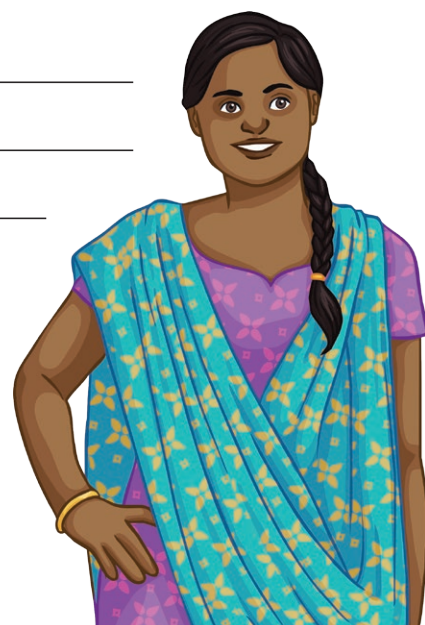
4) A cookie recipe requires 280 grams of flour for 30 cookies. Riley wants to make a smaller batch and needs to use 25% less flour.

How many grams of flour does Riley need for his smaller batch?

Interest and Savings

Annie wants to invest some money. She has £2000 to put into an account for 3 years. Help her decide which savings account she should choose. All interest rates are per annum, unless stated otherwise.

Account A 2.7% compound interest.	Account B 3% simple interest.
Account C Receive a £50 referral fee and 2.5% compound interest.	Account D 1.1% compound interest and a free iPhone.
Account E No interest on the first £500. 5.2% compound interest on anything over £500.	Account F 2.85% compound interest and receive a 10% one-off payment after 3 years.
Account G 2% interest in the first year. 2.5% in the second year. 6% in the third.	Account H 2.8% simple interest and 10% off utilities for a year.



Sum and Product Puzzles

Determine two integers that will solve the sum and product puzzles below. The top number represents the sum of the integers and the bottom number represents the product. In the middle row, write two integers that add up to the top number and when multiplied equal the bottom number. The first one is completed for you.

<p>1</p> $\begin{array}{r} 12 \\ + \\ 10 \quad 2 \\ \times \\ 20 \end{array}$	<p>2</p> $\begin{array}{r} 15 \\ + \\ \square \quad \square \\ \times \\ 36 \end{array}$	<p>3</p> $\begin{array}{r} 7 \\ + \\ \square \quad \square \\ \times \\ 10 \end{array}$	<p>4</p> $\begin{array}{r} 27 \\ + \\ \square \quad \square \\ \times \\ 26 \end{array}$
<p>5</p> $\begin{array}{r} 30 \\ + \\ \square \quad \square \\ \times \\ 224 \end{array}$	<p>6</p> $\begin{array}{r} 19 \\ + \\ \square \quad \square \\ \times \\ 60 \end{array}$	<p>7</p> $\begin{array}{r} 23 \\ + \\ \square \quad \square \\ \times \\ 132 \end{array}$	<p>8</p> $\begin{array}{r} 17 \\ + \\ \square \quad \square \\ \times \\ 42 \end{array}$
<p>9</p> $\begin{array}{r} -4 \\ + \\ \square \quad \square \\ \times \\ -12 \end{array}$	<p>10</p> $\begin{array}{r} -8 \\ + \\ \square \quad \square \\ \times \\ 12 \end{array}$	<p>11</p> $\begin{array}{r} 1 \\ + \\ \square \quad \square \\ \times \\ -30 \end{array}$	<p>12</p> $\begin{array}{r} 2 \\ + \\ \square \quad \square \\ \times \\ -80 \end{array}$
<p>13</p> $\begin{array}{r} 5 \\ + \\ \square \quad \square \\ \times \\ -36 \end{array}$	<p>14</p> $\begin{array}{r} -15 \\ + \\ \square \quad \square \\ \times \\ 26 \end{array}$	<p>15</p> $\begin{array}{r} 11 \\ + \\ \square \quad \square \\ \times \\ -42 \end{array}$	<p>16</p> $\begin{array}{r} -17 \\ + \\ \square \quad \square \\ \times \\ 72 \end{array}$
<p>17</p> $\begin{array}{r} -2 \\ + \\ \square \quad \square \\ \times \\ -99 \end{array}$	<p>18</p> $\begin{array}{r} -23 \\ + \\ \square \quad \square \\ \times \\ 132 \end{array}$	<p>19</p> $\begin{array}{r} 29 \\ + \\ \square \quad \square \\ \times \\ 138 \end{array}$	<p>20</p> $\begin{array}{r} 101 \\ + \\ \square \quad \square \\ \times \\ 198 \end{array}$

