

## Term 3 Week 8 – Practice and Mastery

**WALT** read the information displayed in the table and answer the questions.

We know we have achieved it because we can find

- the correct information needed in the table
- Work out the answers and write the correct unit

**Read the questions carefully before answering them. Show the working and write the answers in the table given below.**

**Timetables** and **charts** display information in a concise and easily understood way. Times may be given in 12-hour form, e.g. 5:32 pm, or sometimes in 24-hour form, e.g. 17:32. When reading a timetable or chart it is important to read all the accompanying information, such as headers and footnotes, so that you access the correct information.

### Practising using timetables and charts

1. Use the tide chart below to answer the following questions.

- What time in the evening is high tide at Russell wharf?
- At what time in the morning is high tide in Coromandel?
- Which location has high tide at 10:47 am?
- Which location has high tide at 8:08 pm?
- Which location has earliest am high tide?
- Which location has latest pm high tide?

High tides			
Location	Height (m)	am	pm
Russell	2.4	8:36	8:53
Whangarei	3	8:29	8:50
Auckland	3.2	7:52	8:13
Onehunga	4.2	11:18	11:36
Manukau Heads	3.2	10:47	11:05
Muriwai	3.6	10:38	10:56
Raglan	3	10:52	11:11
Coromandel	3.5	7:36	7:57
Mercury Bay	2.1	7:54	8:06
Tauranga	1.8	7:56	8:08

Answers

Ques 1	a	
	b	
	c	
	d	
	e	
	f	

**Read the questions carefully, show the working and write the answers in the table given below.**

- g.** What is the time lapse between high tide in the morning and high tide in the evening at Onehunga?
- 
- h.** It takes Tia 25 minutes to get to her favourite fishing spot in Raglan and she wants to be there 1 hour before high tide in the evening. At what time does she have to leave?
- 
- i.** A fisherman fishes in Mercury Bay in the morning from  $1\frac{1}{2}$  hours before high tide until 1 hour after high tide. Between what times did he fish at Mercury Bay?
- 
- j.** To try out his new boat, Phillip needs to launch it at most 2 hours before or after high tide. Between what two times in the morning can he launch his boat in Auckland?

Ques 1	g	
	h	
	i	
	j	

2. This bus timetable shows the times Route 70 buses leave Auckland on Sundays and Public holidays to travel to Papakura, Drury, Paerata and Pukekohe.

from Auckland City to Drury/Pukekohe via Papakura					Sun & Public Hols	
Route	Auckland	Papakura Interchange	Drury	Paerata	Pukekohe	
70	10:15	11:25	11:35	–	–	AM
70	11:15	12:25	12:35	12:45	12:50	PM
70	1:15	2:25	2:35	2:45	2:50	
70	3:15	4:25	4:35	4:45	4:50	
70	5:15	6:25	6:35	6:45	6:50	

**Example:** The second bus of the day leaves Auckland at 11:15 am, reaches Papakura at 12:25 pm and Drury at 12:35 pm. The journey from Auckland to Drury takes 1 hour and 20 minutes (time between 11:15 am and 12:35 pm).

Use the bus timetable above to answer the following questions.

- How many buses leave Auckland for Drury on Sundays? \_\_\_\_\_
- You catch the 1:15 pm bus in Auckland. When would you arrive in Drury? \_\_\_\_\_
- You wish to travel from Papakura to Paerata for a party at 3 pm. What is the latest bus you could take from Papakura that would get you there on time? \_\_\_\_\_
- How long does it take to travel from Auckland to Pukekohe? \_\_\_\_\_
- Suggest why there are no times at Paerata and Pukekohe for the bus that leaves Auckland at 10:15 am.  
\_\_\_\_\_
- An extra Route 70 bus is scheduled to arrive in Pukekohe at 7:50 pm. Fill in an appropriate extra line at the bottom of the timetable shown above.  
\_\_\_\_\_
- Why do you think this timetable doesn't use 24-hour clock times?  
\_\_\_\_\_

Ques 2	a	
	b	
	c	
	d	
	e	
	f	
	g	

Tuesday- MS

**L.I: Find the percentage of a quantity.**

**S.C: Choose a method that makes sense to you and use it to calculate the answer.**

### **LEARNING THE SKILL**

**Here's how to do it...**

#### **Method 1**

- Convert both number to fractions, then multiply them together.

$$\begin{aligned} \text{e.g. } 2\% \text{ of } 150 &= 2/100 \times 150/1 \quad [2\% = 2/100; 150 = 150/1] \\ &= 300/100 \quad [2 \times 150 = 300; 100 \times 1 = 100] \\ &= 3/1 \quad [300 \div 100 = 3; 100 \div 100 = 1] \\ &= 3 \end{aligned}$$

#### **Method 2**

- Convert the percentage to a decimal, then multiply.

$$\begin{aligned} \text{e.g. } 2\% \text{ of } 150 &= 0.02 \times 150 \quad [2\% = 2/100 = 0.02] \\ &= 3 \quad [2 \times 150 = 300; \text{then insert two decimal places}] \end{aligned}$$

### **PRACTICING THE SKILL**

#### **1. Solve the following.**

- 7% of 100 =
- 10% of 100 =
- 50% of 60 =
- 10% of 70 =
- 25% of 8 =
- 5% of 60 =
- 15% of 60 =
- 20% of 80 =
- 90% of 20 =
- 80% of 50 =
- 30% of 9 =
- 40% of 60 =

#### **2. State which quantity is bigger.**

- 15% of 40 or 10% of 50?

Answer:

- b. 20% of 45 or 30% of 20?

Answer:

- c. 25% of 60 or 50% of 32?

Answer:

- d. 2% of 250 or 8% of 50?

Answer:

### **MASTERING THE SKILL**

#### **1. Solve the following word problems.**

- a. Jenny attended a two-day tennis competition. On the first of the competition, she won 15% of the 20 games that she played. On the second day of the competition, she won 20% of the 30 games that she played.

- i. How many games did she win on the first day?

Answer:

- ii. How many games did she win altogether in the competition?

Answer:

- b. Farmers had a post-lockdown sale. Mr. Scholtz decided to buy some items for his home. Can you help him to calculate how much money he saved on the sale?

- i. The original price of a table was \$600 but it was on sale for 50% less. How much did he pay for the table?

Answer:

- ii. The original price of a stainless steel saucepan was \$200 but he only paid \$150 for it. What percentage less did he pay for it?

Answer:

- iii. A wool duvet was on sale for 40% less. The original price was \$200. How much did he pay for it?

Answer:

- c. A school has 560 students. 15% of the students ride a bicycle to school, 17% of the students come by car and 18% catch the bus. The remainder walks to school.

- i. What percentage of the students walk to school?

Answer:

ii. How many students walk to school?

Answer:

Wednesday- Gri

**Practice and Mastery**

Learning Intention: To learn ways of tackling Word Problems.

1. Read the question carefully. Every word matters. What answer is being asked for? It may not be what you think.

Example:

A Mary and Rua together weigh 55kg.

B Mary, Rua and Joe weigh 85kg.

C Mary and Joe together weigh 65kg.

Answer needed: What does Rua weigh?

Steps: From A and B we see that Joe weighs 30kg. ( $85-55=30$ )

From C we see that Mary weighs 35kg ( $65-30$ )

From A we find the answer: Rua weighs 20kg ( $55-35=20$ )

DO NOT PUT down Mary 's and Joe's weights in your answer.

2. After you answer, ask yourself: Is this answer sensible? Does it work for all the statements in the problem?

Example:

A When added together three whole numbers give a total of 10.

B When multiplied together, the same numbers give a product of 30.

Answer needed: What are the three numbers?

Steps:  $1 + 2 + 7 = 10$  This works for A.

Check for B.  $1 \times 2 \times 7 = 14$  does not equal 30. Fails for B

Try again:  $2 + 4 + 4$  (No, 2 numbers are the same –  $2 \times 4 \times 4 = 32$ , not 30)

Try again:  $2 + 3 + 5 = 10$  Works for A

$2 \times 3 \times 5 = 30$  Works for B.

Then LIST the numbers: 2,3,5

Do not put the working as the answer – it was not required.

Maths is not Magic. You just need to take one step at a time.

Your turn:

1. Tennis balls are usually sold at 3 for \$4. One week the price is changed to 4 for \$5, will the cost of 12 balls be more or less than the usual cost, and by how much?
2. If a bat and ball cost \$11, and the bat costs \$10 more than the ball, how much does the ball cost? (not \$1)
3. A clock is set correctly at 3pm. It loses 1 minute every hour. What will the clock read at 9am next morning?
4. A bus begins its daily trip from Greymouth to Christchurch. It starts out empty and picks up 1 passenger at the first stop, 2 at the next stop, 3 at the third stop and so on. The bus can hold 66 passengers. At which stop is the bus full?
5. On a bus trip there are 36 children. There are 12 more girls than boys, How many girls are there?
6. July has 31 days. Suppose July 1 is a Monday. What day of the week is August 21 of the next month?
7. Chris bought a packet of jelly beans and found he could divide the jelly beans in equal shares among 2,3,4,5 or 6 children with no sweets left over. What is the **least** number of jelly beans the bag contained?
8. A teacher gave out 33 Moro bars to the best three teams in a sports tournament. She gave 6 bars to the Green Streaks and twice as many to the Cool Cats. How many Moro bars did the winning Raiders team get?
9. Hemi was asked to put 7 caramel and 8 peppermint chocolates in each bag for the class fair. He packed 56 caramel chocolates. What was the total number of caramel and peppermint chocolates packed?
10. A mysterious green slime doubles its volume every minute. At 3pm a small amount escaped in the Town Hall. By 4pm the substance has just filled the entire building. What was the time when the Town Hall was one quarter full?

Thursday- RM

### MAGIC SQUARES.

See if you can fill in the blank squares so that the rows, columns and diagonals add up to the same total.

6	8	4
	6	

		9
	9	11
9		

### PROBLEM SOLVING TECHNIQUES TO TRY

Making a diagram. Try drawing a diagram to represent the information visually to help you solve these problems.

1. At sunrise a sand flea began jumping up a 20 metre sandhill. Every hour he was able to jump up five metres, but then slid back three metres in the loose sand. How long did it take the sand flea to reach the top?
2. 'Scary' the superstitious spider only walks along the cracks in between the slabs on a footpath. If each slab is one metre times one metre, how far

would he travel if he went along two slabs, right one slab, along three slabs, left one slab, along three slabs, right two slabs and back five slabs? Describe the simplest path he could have done to get to the same destination.

3) In the dense jungle of Sweatyland a small tribe of natives lived in five huts. The jungle was so thick they could only cut a narrow path between the huts. How many paths would they have had to create so that each hut was joined to all of the others?

Guess and Check.

1. A farmer has 62 sheep and cows in total. If he has eight more cows than sheep, how many of each does he have?
2. A baker bakes 36 doughnuts and tarts each day. If he makes six more doughnuts than tarts, how many of each does he bake?
3. A stamp collector collects French and English postage stamps. She had 212 stamps in her collection, with 62 more French than English. How many of each did she have?
4. In a school of 568 students, there were 26 more girls than boy. How many boys were there?

If you have extra time please practise your tables.

Friday – Azi

For today's task, you **DO NOT** need a calculator!

We are learning to use an appropriate strategy to solve multiplication problems.

**Task 1:** Number Bonds

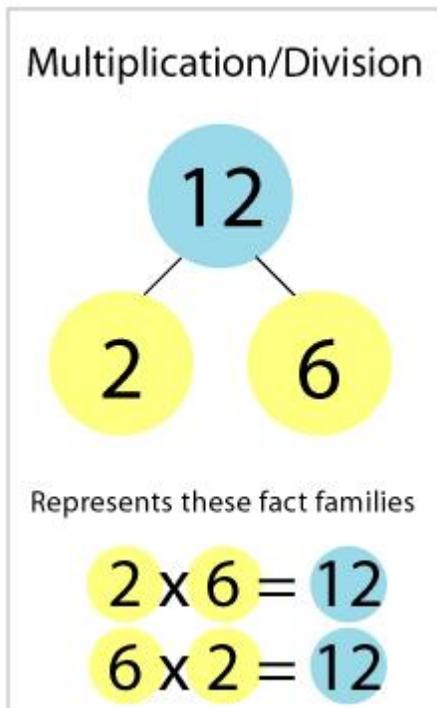
**Number bonds** is splitting **numbers** in useful ways. They show how **numbers** join together, and how they break down into component parts.

*For example:*

**12** is the whole

**2** and **6** are parts of the whole

**Equation:**  $2 \times 6 = 12$  or  $6 \times 2 = 12$



**Task 1:**

Find the parts for the whole numbers below. The first one has been done for you.

Whole number	First Part number	Second Part number	Equation
20	4	5	$4 \times 5 = 20$
30			
42			
81			
10			

99			
36			
12			
0			
24			
18			
77			
132			
100			
120			
144			

**Task 2:** multiplication equation

Write a multiplication equation for the following answers. The first one has been done for you.

1.  $10 = 2 \times 5$

2. 16

3. 20

4. 18

5. 5

6. 36

7. 30

8. 40

9. 10

10. 27

**Task 3:** Multiplying two-digit numbers by one-digit

Find the answers for the following equations.

1.  $25 \times 4 =$

2.  $34 \times 6 =$

3.  $28 \times 3 =$

4.  $87 \times 4 =$

5.  $68 \times 9 =$

**Task 4:** Word problems

Find the answers for the following word problems. Write the equation and answers. The first one has been done for you. Do not forget to write the unit at the end of your answers.

1. Sarah has 5 piles of books. Each pile has 6 books. How many books does Sarah have?  
 $5 \times 6 = 30$  books
2. Joey has 7 piles of towels. Each pile has 12 towels. How many towels does Joey have?
3. Alana has 18 pens in 3 boxes. How many pens does Alana have?
4. There are 15 biscuits in a packet. A shop orders 156 packets. How many biscuits will be in the 156 packets?
5. A school buys 172 boxes of pencils. Each box has 12 pencils. How many pencils has the school bought?
6. It takes 18 minutes to make a toy car. How many minutes will it take to make 205 cars?
7. A machine makes 16 dice in a minute. A working day is 264 minutes. How many dice are made in 264 minutes?
8. A cinema has 21 screens. Each screen has 297 seats. How many seats are there in the cinema?
9. Eggs are sold in trays of 24. In a week, a farmer sells 372 trays. How many eggs does he sell in one week?

10. A bag of nails contains 613 nails. A hardware store has 23 bags. How many nails are in the 23 bags?
11. There are 27 children in a class. Each child pays \$7.49 for a school trip. How much do they pay altogether?
12. A football club has an average attendance of 859 people to each match. What is the total attendance for the 29 matches played in a season?
13. Santana has 168 packs of lollies. If there are 89 lollies in each pack, how many lollies does Santana have?
14. Grace has 172 boxes of shoes. If there are 3 pairs of shoes in each box, how many shoes does Grace have?