Maths Week/Pāngarau Wiki 2025

Daily Dollar/Ko te Tāra o te Rā

Bill Ellwood Memorial Series

This series is a tribute to Bill Ellwood, who wrote much of the Maths Week material from 2006 to 2019. Bill passed away in June 2021.

Set E Day 2

For students

WHAT TO DO FOR STUDENTS

1 You may work on your own or with someone else, and your teacher or someone else can help you.

2 Answer the questions.

3 Each question has a dollar value. Each day's questions total $100 in value.

4 When you have answered the questions, your teacher will give you the answers.

5 If you are right, you will get the dollar value for each question. You then you can work out how many dollars you have earned for the day.

6 Add the number of dollars you have earned each day in the Daily Dollar questions and get a total for the week. Then you can compare your total for the week with others in your class.

7 Perhaps your teacher may award a prize for the highest total for the week!

8 Good luck!

GOING PLACES

Question 1 ($40)

(a) I cycled for 40 minutes at an average speed of 36 km/h. How far did I go?

(b) A family went on a car trip. The trip was 24 km long and the trip took 36 minutes. The trip went through urban (city) areas only where the speed limit was 50 km/h. How much less than the speed limit was the average speed for the trip?

(c) A train leaves one city at 10.25 am and arrives at its destination after 4 hours and 45 minutes. At what time does it arrive at its destination?

(d) A bus is scheduled to start a trip at 10.40 am and to finish the trip at 3.55 pm. However, it is held up for 57 minutes due to road works. How long does it actually take for the trip?

Question 2 ($10)

Here is part of a bus timetable.

Stop number	Departs				
1725	8.15	8.28	8.45	9.10	9.40
1726	8.19	8.32	8.49	9.14	9.44
1727	8.25	8.38	8.55	9.20	9.50
1728	8.28	8.41	8.58	9.23	9.53
1729	8.34	8.47	9.04	9.29	9.59
1730	8.39	8.52	9.09	9.34	10.05
1731	8.43	8.56	9.13	9.38	10.09
1732	8.48	9.01	9.18	9.43	10.14
1733	8.52	9.05	9.22	9.47	10.18

Maggie is going to catch a bus at stop number 1726 and get off at stop number 1731. She wants to be at stop number 1731 no later than 9.35. Assuming that the bus is on time, what is the latest time that she can catch the bus at stop number 1726?

Question 3 ($20)

(a) Terry and Tahu flew from Auckland to Melbourne but on different days. Terry's flight took off from Auckland at 7.04 am and landed in Melbourne at 9.32 am local time. Tahu's flight took off from Auckland at 7.52 am and landed in Melbourne at 10.11 am local time. The time in Melbourne is 2 hours behind the time in Auckland. Whose flight time (the time between taking off and landing) was greater, and by how much?

(b) A plane is scheduled to fly from Wellington to Sydney departing at 6.20 am. However, the flight is held up for 48 minutes. The flight time is 3 hours and 35 minutes. The time in Sydney is two hours behind the time in Wellington. At what local time does the plane arrive in Sydney?

Question 4 ($30)

(a) The chart below gives the distance in km and the travel time in hours and minutes between some places in New Zealand.

		Time (hours and minutes)				
		Auckland	Tauranga	Taupo	Napier	Wellington
Distance (km)	Auckland		2 34	3 16	5 00	7 32
	Tauranga	210		1 51	3 16	7 00
	Taupo	270	148		1 55	4 41
	Napier	410	279	144		4 06
	Wellington	641	418	372	325	

Using the information in the chart, calculate the average speed of a journey between Taupo and Wellington.

(b) Matiu drove for part of a journey for 2 hours 24 minutes at an average speed of 85.4 km/h, and for the rest of the journey drove for 1 hour 45 minutes at an average speed of 76.2 km/h. Calculate his average speed for the whole journey.

(c) In the UK (and some other parts of the world), distances are usually measured in miles. One mile is about 1.6 km. The distance between London and Birmingham is 128.5 miles, and it takes about 2 hours 30 minutes to travel between them in normal driving conditions. The distance between Birmingham and Manchester is 86.3 miles, and it takes about 1 hour 45 minutes to travel between them in normal driving conditions. Calculate in km/h the average speed of a trip between London and Manchester via Birmingham.