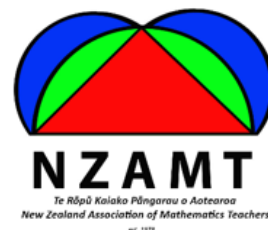
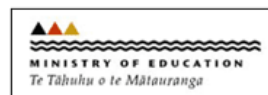




# Maths Week/Pāngarau Wiki 2025



## 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 D Day 1

### 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!

## BATH TUB MATHS

### Question 1 (\$20)

The hot water tap when it is turned on full-on can fill a bath in eight minutes.

What fraction of the bath can it fill in one minute?



### Question 2 (\$20)

The cold-water tap when it is turned full-on can fill a bath in twelve minutes.

Wiremu has just had a long run and wants to take a cold-water bath.

How long will the cold-water tap take to fill half of the bath for Wiremu?

### Question 3 (\$20)

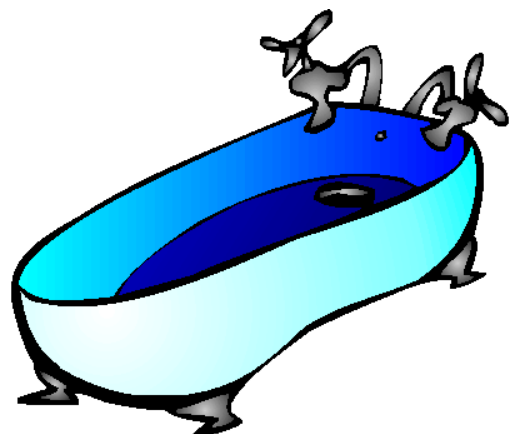
When the bath is full, to the brim, it contains 0.6 cubic metres of water. Kayden is an athlete whose total volume is 0.07 cubic metres. The bath is filled to the brim, Kayden carefully jumps into the bath and submerges himself completely. He then decides to sit in the bath. How much water will spill over the side of the bath? Give your answer in cubic metres.

### Question 4 (\$20)

As in the earlier questions, the cold-water tap when it is turned full-on can fill the bath in twelve minutes and the hot water tap when turned full-on can fill the bath in eight minutes.

How long will it take to fill the bath if both taps are turned full-on?

Give your answer in minutes and seconds and remember to explain how you reached your answer.



Hint: You could try considering what happens each minute or you could try considering what happens over a longer period such as 24 minutes.

### **Question 5 (\$20)**

Unfortunately, when Jessica comes along to fill the bath, someone has taken out the plug and she does not notice. When the plug is open a full bath will empty in six minutes.

Jessica turns both the hot and the cold tap fully on, but with the plug out some water flows away as the bath fills.

How long will it take the bath to fill now?

Give your answer in minutes and seconds and remember to explain how you reached your answer.