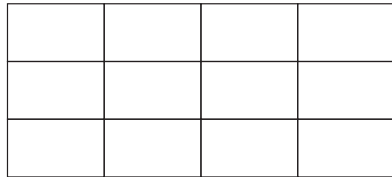


# Y5 Learning at home activity sheet #4

## Problem 1:

Is it possible to put three blue dots, three green dots three red dots, and three yellow dots in the grid below so that two dots the same colour are never beside each other? Can you place them so that they aren't beside each other diagonally either?



## Problem 2:

There are 13 people behind Marama in the line. There are 29 people in the line altogether. How many people are in front of Marama?

## Problem 3:

How many different ways can you arrange 2 eggs in a 6-space egg carton?



## Number facts:

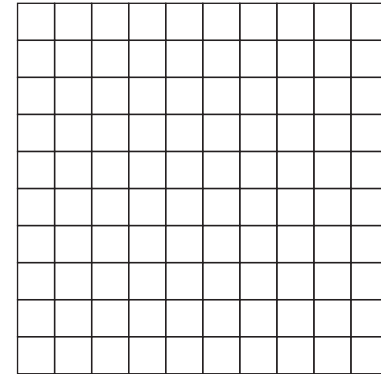
Cut out the cards on the attached sheet and shuffle them.  
How fast can you match each equation with the correct answer?  
Try to beat your time.

## How big is your foot?

Trace around your foot on a piece of paper.  
Find a way to measure the area it covers.  
Compare the size of your foot to other members of your family.

## Maths word find:

Look at this shape. Make a maths word find. See how many different words that have something to do with maths you can include. Make sure you keep a list of the words so you can challenge a family member to find them!



## Quick questions:

1. What is  $15 \times 3$ ?
2. How many sides does an octagon have?
3. How many 20c coins does it take to make \$1?
4. What is the smallest odd number greater than 30?
5. What is  $\frac{1}{2} + \frac{1}{2}$ ?
6. Which is more, three dozen or  $5 \times 6$ ?
7. Which is more,  $\frac{1}{6}$  or  $\frac{1}{5}$ ?
8. What is \$1.50 take away 70 cents?
9. How many centimetres are there in a metre?
10. What is  $38 + 13$ ?

# Learning at home: Notes for whānau

When your child finishes each activity, ask them to add a mouth to the face to show how they felt about that activity.

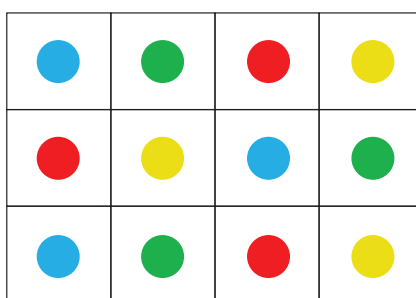


## Problem 1:

You may want to make small pieces of paper with dots on to experiment with this problem.

It is easy enough to place the dots so that no two dots the same colour are beside each other.

It is also possible to place the dots so that no two colours are next to each other diagonally either. One way to do this is to place the four colours along the top row and the bottom row in the same order, then on the middle row, place the dots in the same order, but starting from the third space.



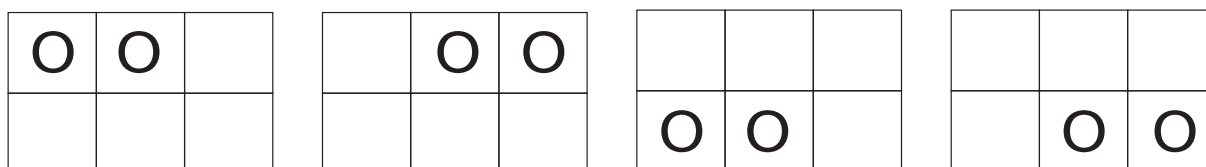
## Problem 2:

There are 29 people in the line. If you take away the 13 people behind Marama, that leaves 16 people. One of those is Marama, so there must be 15 people in front of her.

## Problem 3:

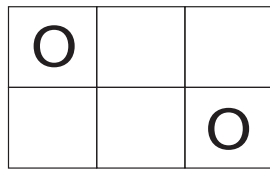
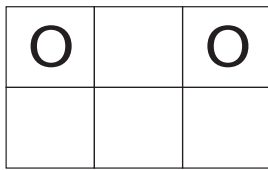
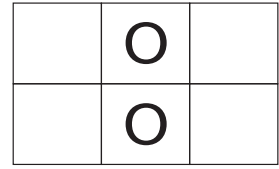
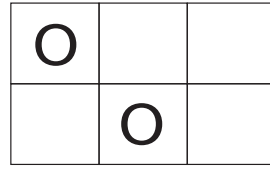
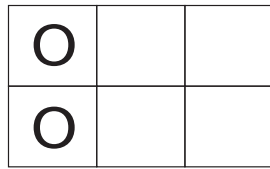
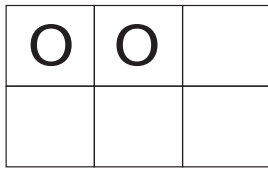
There are a number of ways to approach this problem. For each spot that you place the first egg, there are 5 spots you could choose for the second egg. So there are  $6 \times 5 = 30$  different ways you could put the two eggs into the carton. But each possible arrangement of the eggs could be made in two different ways, depending which egg you place first. So there are only 15 different arrangements of eggs.

You might also want to consider some of the arrangements to be the same, for example, these four.



In all of them, one egg is in the corner, and the other is in the side spot next to that corner.

If you decide that arrangements are only different if they can't be rotated or reflected to be the same as any other, there are only six possible arrangements:



### How big is your foot?

There are lots of different ways your child may choose to measure the area of their footprint:

- They may choose to make a rectangle, or several rectangles that cover it, then calculate and add up their areas.
- They may choose to draw around their foot on grid paper, then count the squares that it covers.
- They may choose to use small squares or counters to cover the footprint then count how many were needed to cover it.

Whatever method they use, challenge them to be as accurate as they can so that they can compare the size of their foot with the size of other feet in your whanau.

### Quick questions:

1. 45
2. 8
3. 5
4. 31
5. 1
6. Three dozen (36)
7.  $\frac{1}{5}$
8. 80 cents
9. 100
10. 51

$2 \times 2$	4	$2 \times 3$	6
$2 \times 4$	8	$2 \times 5$	10
$2 \times 6$	12	$2 \times 7$	14
$2 \times 8$	16	$2 \times 9$	18
$2 \times 10$	20	$5 \times 3$	15
$5 \times 4$	20	$5 \times 5$	25
$5 \times 6$	30	$5 \times 7$	35
$5 \times 8$	40	$5 \times 9$	45
$5 \times 10$	50	$10 \times 3$	30
$10 \times 4$	40	$10 \times 6$	60
$10 \times 7$	70	$10 \times 8$	80
$10 \times 9$	90	$10 \times 10$	100