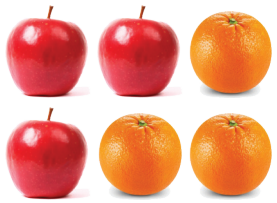
# Y5 Learning at home activity sheet #6

## Problem 1:

Two apples and one orange cost a total of $3.00.

One apple and two oranges cost a total of $3.30.

How much does one orange cost?




## Problem 2:

Pania buys four concert tickets.

She hands over two $50.00 notes and gets a $10.00 note in change.

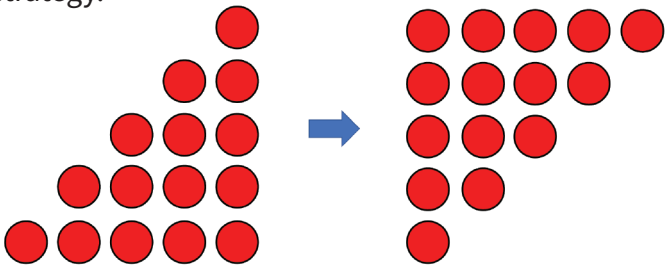
How much does each concert ticket cost?

## Problem 3:

Build the triangular figure on the left with buttons, stones, or other small objects.

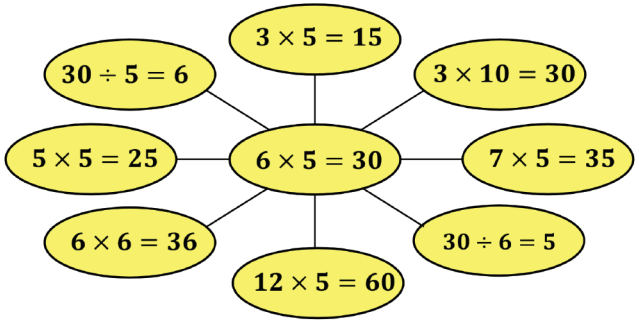
What is the smallest number of circles you need to move to change the figure on the left into the figure on the right?

Explain your strategy.

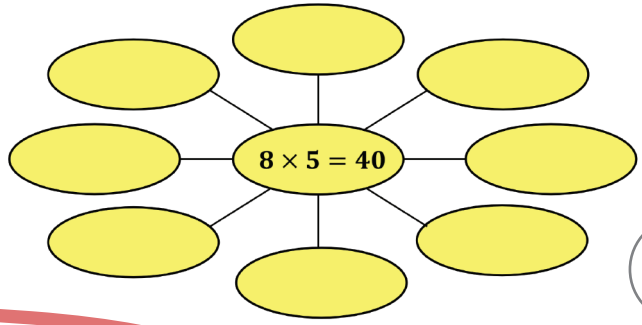


## Spider web:

You can start with one basic fact and know many other facts from it. Here is a spider web of facts using 6 x 5 = 30.

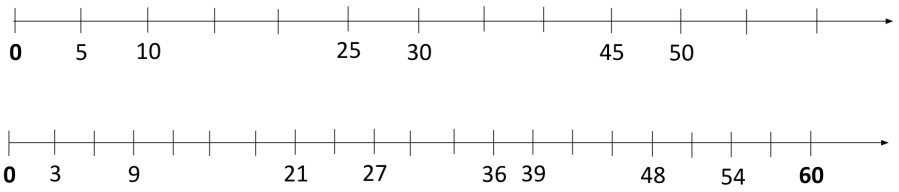



Finish this spider web for 8 x 5 = 40.




## Placing numbers:

Write the missing numbers on these number lines.

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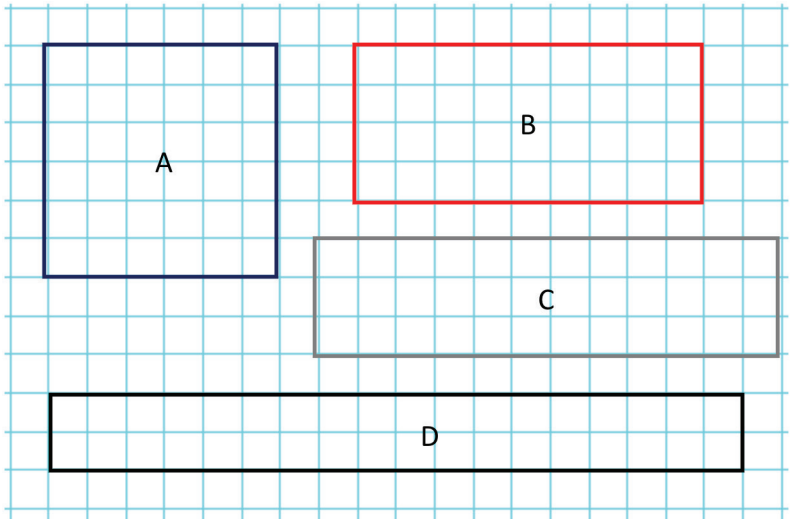
## Dog runs:

Which dog run has the greatest area? Each square is 1 square metre (1m²).

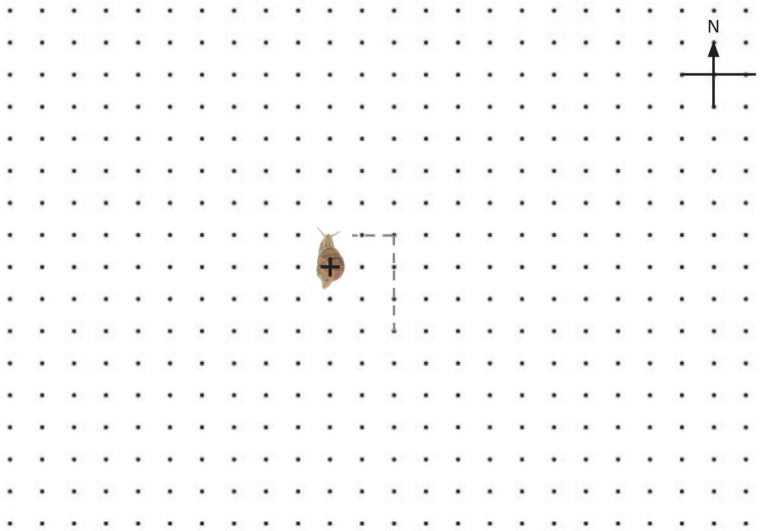



Which dog run has the longest perimeter? The perimeter is the length of the outside fence.

## Snail trail:

Slimey the Snail starts at the cross. It slides one space North, turns right, slides two spaces East, turns right, and slides three spaces South.

Continue Slimey's journey using this pattern. Each slide is one longer than the previous one. What shape does Slimey make?




## Right angles:

This how you find corners that are right angles. You can use a sheet of paper or a square place mat to do the same thing.

Find some right angles around your house. There should be plenty!

Make a list of where you found the right angles.

## Pattern finding:

If the football jerseys are hung up in this pattern, what numbered jersey is next hung up on the left and on the right?

Explain your rule for working out the answer.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# 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.*

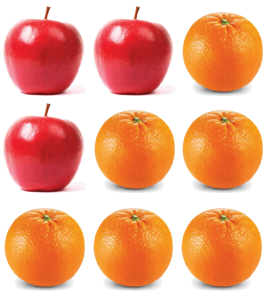
**Problem 1:**

Which fruit is more expensive, an apple or an orange? How do you know?

If the pattern continued down, what would the picture look like?

If the pattern continued down, what would the price be?

The bottom picture shows that three oranges cost $3.60 so each orange must cost $3.60 ÷ 3 = $1.20.



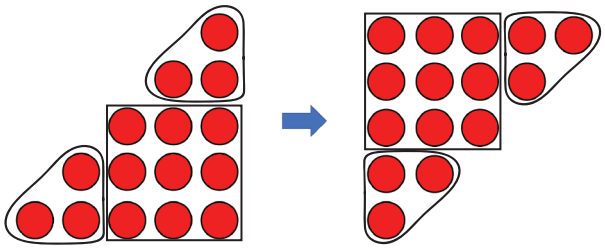

**Problem 2:**

How much do the four tickets cost in total? ($90 since 100 – 10 = 90)
How do you work out what each ticket cost? (90 ÷ 4 = 22.5 or $22.50)

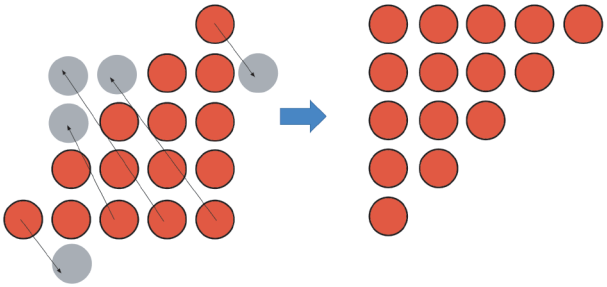
**Problem 3:**

You might use bottletops, buttons or stones to model the problem.

The first strategy might be to see what the two shapes have in common, a 3 x 3 square. Each shape also has two triangles made of three circles. So the left shape can be changed by moving six circles.



Can the shape be changed by moving less than six circles? It turns out to be possible by moving only five circles.



Is the change possible by moving five different counters?

**Spider web:**

This task is aimed at connecting the multiplication facts by working with a known fact.
Here are a few connections:

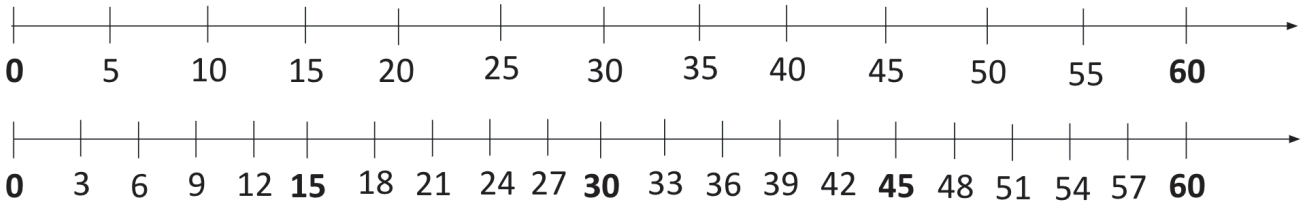
Doubling one factor and halving the other: 8 x 5 = 4 x 10.

Changing one factor by adding or subtracting one: 8 x 5 = 40 so 7 x 5 = 35, 9 x 5 = 45, 8 x 4 = 32, and 8 x 6 = 48

Division: 8 x 5 = 40 so 40 ÷ 8 = 5 and 40 ÷ 5 = 8.

**Placing numbers:**

The task requires your child to place the multiples of three and five on a number line.




Some numbers occur in both the multiples of three and five. These numbers are 15, 30, 45, and 60, ... , and are called common multiples of three and four.

What are the next common multiples of three and five?

**Dog runs:**

Look for your child to use multiplication rather that counting individual squares. The areas of the dog runs are:

A: 6 x 6 = 36 square metres (36 m²)
B: 4 x 9 = 36 square metres (36 m²)
C: 3 x 12 = 36 square metres (36 m²)
D: 2 x 18 = 36 square metres (36 m²)

It is interesting to discuss how the rectangles look different yet have the same area. That does not mean that the perimeters are the same. The perimeter can be found by doubling the length plus the width since each rectangle has two pairs of parallel sides.

A: Perimeter = 2 x (6 + 6 ) = 24 metres
B: Perimeter = 2 x (4 + 9 ) = 26 metres
C: Perimeter = 2 x (3 + 12 ) = 30 metres
D: Perimeter = 2 x (2 + 18 ) = 40 metres

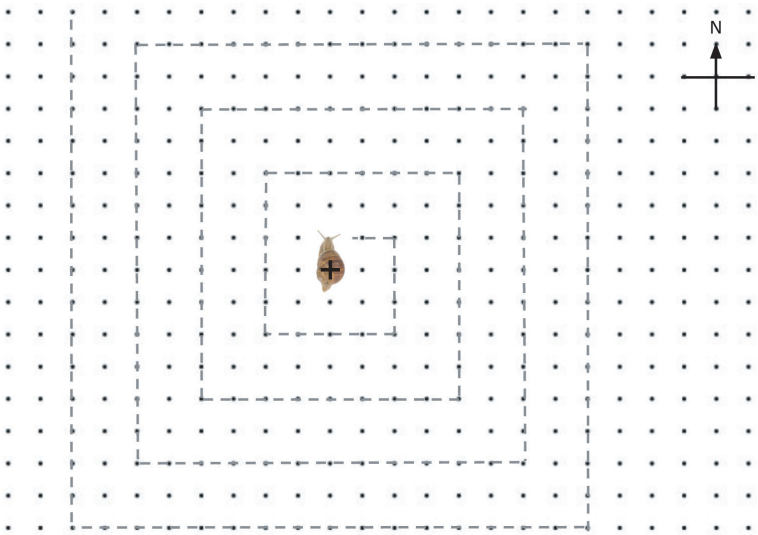
**Right Angles:**

The confusing thing about the term right angle is that it refers to a turn (rotation) of 90 degrees and it does not matter which way the angle is facing.

Right angles can be found all over the house, in the corners of paving tiles and bricks, corners of walls and windows, tabletops, plates, books, etc. The key idea that your child can recognise when two lines are perpendicular (at right angles to each other).

**Snail trail:**

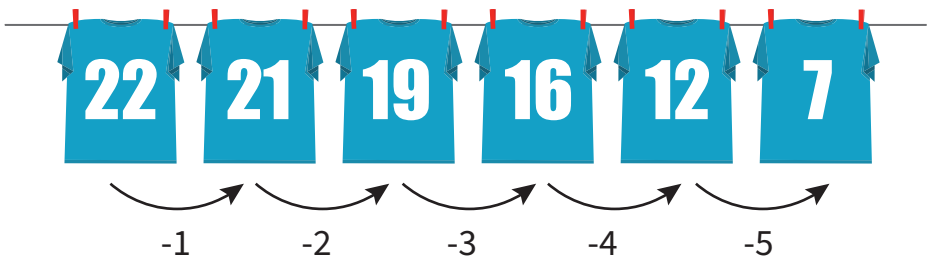
This task is made difficult by the orientation of the paper. The right turn is relative to the direction that Slimey, the snail, is sliding. Two strategies make the task easier for children; rotating the paper so they are facing the direction slime is heading, or using an object to represent Slimey, such as a small pen top or toothpick (something the indicates direction and is small). The path is a spiral.




**Pattern finding:**

Does your child notice that the numbers are getting smaller by different amounts?

Do they use recording to support their pattern finding?




The next jersey number to the right must be the answer to 7 – 6 = 1. The jersey to the left must be the answer to 22 – 0 = 22. There must be two jerseys numbered 22.