

3-6: REMOTE MATHS

EDITION 9

NUMBER PROBLEMS IN REAL WORLD CONTEXTS

Mathematical language: Add, addition, take away, subtraction, altogether, equals, many, more, less, divide, multiply, table, problem solve, solution, numbers.

TASK 1: HOW MANY LEGS?

Watch this video reading of *How Many Legs* by Kes Gray <https://www.youtube.com/watch?v=mCaM9yf2pJ8>

- While listening to the story create a running total using a table showing how many legs there are.

Creature	Number of legs	How many legs altogether
Person	1×2	2
Polar Bear	1×4	6
Duck	1×2	8
Hippo		
Dog and Chimpanzee		

Enabling prompt: Draw and count the legs for each page.

TASK 2: LARGE NUMBERS *Adapted from FUSE, Department of Education*

Explore the magnitude of large numbers and build an understanding of when these numbers are used. Solve these problems using higher order thinking and problem-solving strategies. You may need to make some assumptions as you go. When you do, note these down.

- How many litres of fluid have you consumed in your lifetime?
- How much toothpaste do Australians use in a given week?
- How many grains of rice will fill the room you are in now?
- How long would it take to count to a million? Or even a billion?

Remember to:

- Read and understand the problem
- Devise and carry out a plan,
- Present your solution
- Reflect and look back and extend their learning.

EDITION 9: NUMBER PROBLEMS (CONT.)

TASK 3: FOUR PILES PROBLEM *Source Maths 300*

Place 20 blocks into 4 piles so that:

- The first pile has three more than the third pile.
- The third pile has one more than pile two.
- Pile four has twice as many as pile two.

Extending prompt: Does the same set of clues work for 21, 22, 23, 24, or 25 blocks?



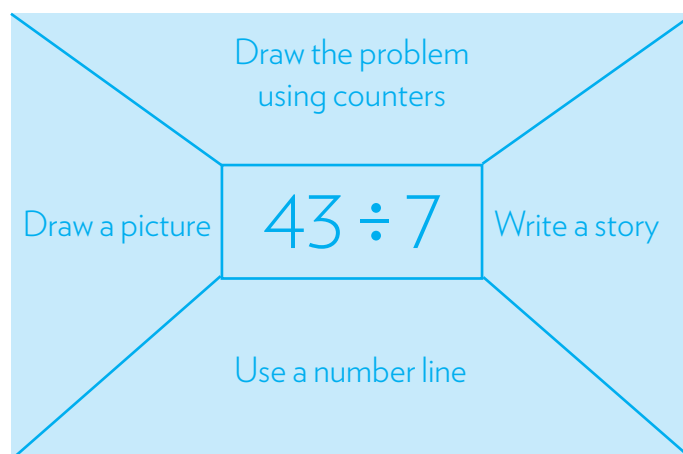
TASK 4: THINK BOARD

Use a think board to explore this number sentence

- $43 \div 7$

Download think board on the [MAV site](#).

Extending prompt: Try $13 \div \frac{1}{2}$ using this [think board](#).



TASK 5: SHOES *Source Sullivan 2018*

The total cost of my pair of shoes and one pair of my sandals is \$87, I know that the shoes cost \$50 more than the sandals.

- How much might the shoes cost?

Enabling prompt: The total cost of my shoes and sandals is \$87. How much might the shoes cost? How much might the sandals cost?

Extending prompt: What might be the maximum cost of the sandals? Describe your solution.

Supporting task: My soccer ball and my basketball cost \$137. The soccer ball costs at least \$10 more than the basketball. What might the soccer ball cost? Explain your thinking.

MAV would love your feedback on these resources. Click on the link or scan the QR code.

<https://www.surveymonkey.com/r/MAHhomelearning>



TRANSFORMATION: SLIDE, FLIP AND TURNS

Mathematical language: Flip, slide, turn, translate, half, horizontal, diagonal, symmetry, reflective, rotational, rotate, transform, mirror.

TASK 1: TANGRAM

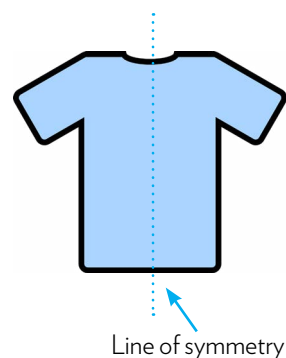
Download and cut out this [tangram template](#).

- What pieces can be made from joining other pieces together?
- How many ways can you join pieces to make the largest triangle?
- Which shapes have a line of symmetry?
- How many ways can you make a square using some of the pieces?

Supporting task: Try playing these tangram puzzles, <https://www.abcya.com/games/tangrams>
<https://nrich.maths.org/2487>

TASK 2: CAR LOGOS *Adapted from NZ Maths*

When something is symmetrical, it is the same on both sides. A line can be drawn and the parts on each side could be folded to match. For example, this top has one line of symmetry shown as the red dotted line.



Many car manufactures utilise symmetry in their logos.

- Do an internet search for car manufactures and their logos.
- Draw and describe how their logos do, or don't demonstrate symmetry.

Extending prompt: Create your own car manufacture and develop a logo with at least two lines of symmetry.



TASK 3: TESSELLATING SHAPES

Some but not all regular polygons tessellate. Your task will be to find which ones do.

- Go to Math is Fun: <https://www.mathsisfun.com/geometry/tessellation-artist.html>
- Insert a shape and slide, rotate and flip it to see if it will tessellate

Extending prompt: For the shapes that will not tessellate on their own, can you add another shape to see if you can get them to tessellate together?

EDITION 9: TRANSFORMATION (CONT.)

TASK 4: BUTTERFLIES

Butterfly wings are perfectly symmetrical. Their wings are exactly the same on each side.

- Create your own butterfly and make each wing match perfectly
- Draw your butterfly with the help of grid paper or try this website <https://www.mathsisfun.com/geometry/symmetry-artist.html>

Supporting task: <https://www.teacherled.com/iresources/symmetry/symmetryinvaders/>



TASK 5: FOOTPRINTS *Adapted from ReSolve: Maths by Inquiry*

Footprints can make some great transformation image known as a frieze pattern. Here are two examples

- How do you think these footprints were made?
- What forms of symmetry can you find in each footprint pattern?
- Try and use as many relevant words from this list to describe each footprint: Translate, glide, reflection, rotation, horizontal, vertical, turn, mirror.

Supporting task: Using some water and an outdoor space, crate and document your own footprints and describe the tessellation.

Extending prompt: Recreate these footprints, and 3 footprints of your own on grid paper.



MATHS APP OF THE WEEK: PATTERN SHAPES

Students use Pattern Shapes to explore geometry and fractions, create their own designs, or filling in outlines. As they work with shapes, students think about angles, investigate symmetry, and compose and decompose larger shapes.

<https://apps.mathlearningcenter.org/pattern-shapes/>

Look out for more tasks next week!