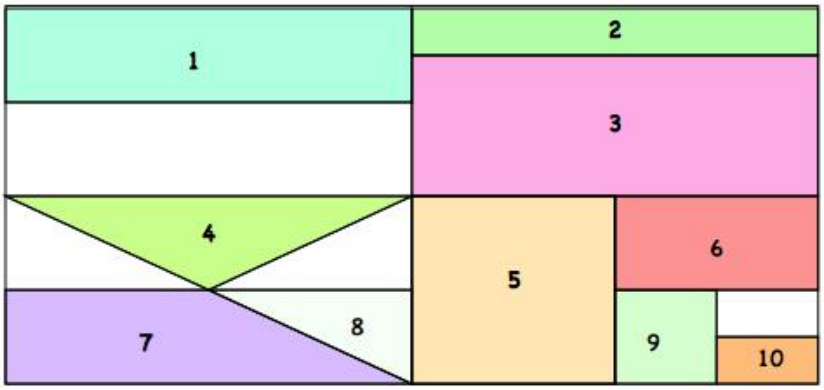
Day 2 Extension

Rectangle Tangle

Age 7 to 11
Challenge Level ★



The large rectangle above is divided into a series of smaller quadrilaterals and triangles. Each of the shapes is a fractional part of the large rectangle.

Can you untangle what fractional part is represented by each of the ten numbered shapes?

Day 2 Extension Solution

Here's one way you could logically set out your findings.

The first thing I did was to mentally chop the picture into 4 equal quarters. Then I just used simple logic.

Shape Number	Logic	Workings	Answer
(1)	(1) is half of a quarter	$12 \times 14 = 18$	(1) = *1/8*
(2) & (3)	(2) is half of (1) (2) + (3) = *14* therefore:	$12 \times 18 = 116$ $14 - 116 = 316$	(2) = *1/16* (3) = *3/16*
(4)	(4) is a quarter of a quarter	$14 \times 14 = 116$	(4) = *1/16*
(7) & (8)	(7) + (8) is half of a quarter (7) + (8) = *18* (7) is three quarters of (7) + (8) (8) is a quarter of (7) + (8)	$12 \times 14 = 18$ $34 \times 18 = 332$ $18 - 332 = 132$	 (7) = *3/32* (8) = *1/32*
(5)	(5) is half of a quarter	$12 \times 14 = 18$	(5) = *1/8*
(6)	(6) is half of (5)	$12 \times 18 = 116$	(6) = *1/16*
(9)	(9) is half of (6)	$12 \times 116 = 132$	(9) = *1/32*
(10)	(10) is half of (9)	$12 \times 132 = 164$	(10) = *1/64*

1,2,3,6 and 10 are rectangular. 5 and 9 are squares. 4 and 8 are triangles. 7 is a trapezium.The biggest shape is 3 and the smallest shape is 10.