Formal methods: divide integers

1 Here are some divisions.

		0	2	3 r4	
	6	1	4	2	

		0	2	4 r1	
	6	1	4	5	

		0	2	3 r5	
	6	1	4	3	

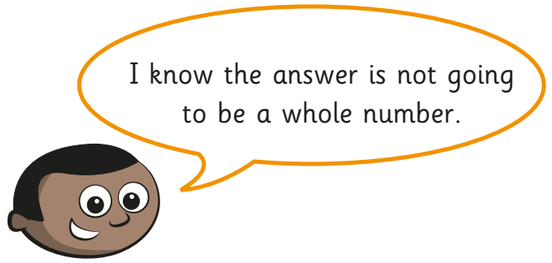
		0	2	4 r2	
	6	1	4	6	

		0	2	4	
	6	1	4	4	

		0	2	4 r3	
	6	1	4	7	

What is the same and what is different about the calculations?

2 Mo is trying to work out 248 ÷ 5



a) How does Mo know the answer is not going to be a whole number?

b) Work out 248 ÷ 5

Write your answer in three different ways.

49 r 3 49 $\frac{3}{5}$ 49.6

3 Teddy has worked out 176 ÷ 4

		0	9	4
4	1	3	7	1 6

a) What mistake has Teddy made?

b) What is the correct answer?

44

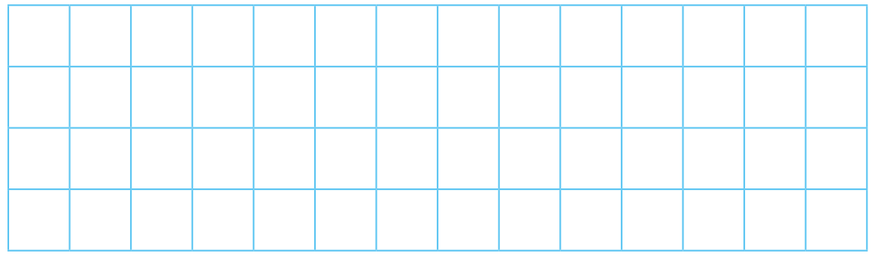
4 Work out the divisions. Give your answers as decimals.

a) 534 ÷ 3 = 178

b) 426 ÷ 6 = 71

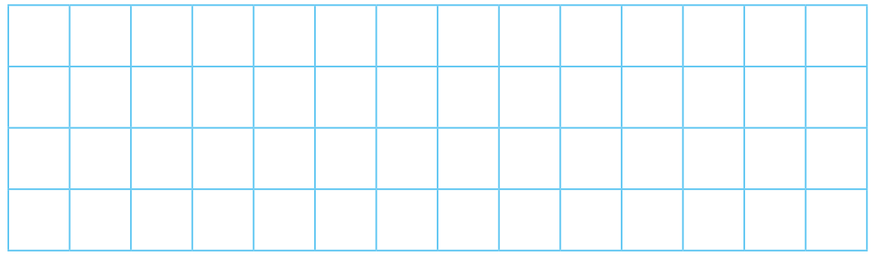
c) 676 ÷ 5 = 135·2

e) 513 ÷ 4 = 128·25



d) 993 ÷ 6 = 165·5

f) 918 ÷ 8 = 114·75



5 **a)** Work out 85 ÷ 7

Give your answer to 3 decimal places.

12·143

b) Write $\frac{85}{7}$ as a decimal to 3 decimal places.

12·143

6 To divide a number by 12 you can divide by 6 then divide by 2

a) Use this method to work out 345 ÷ 12

28·75

b) What other pair of one-digit numbers could be used instead of 6 and 2?

How do you know?

7 Work out these divisions. State which strategy you used.

a) 812 ÷ 14 = 58

b) 315 ÷ 12 = 26·25

8 Solve the equations.

a) $4g = 167$

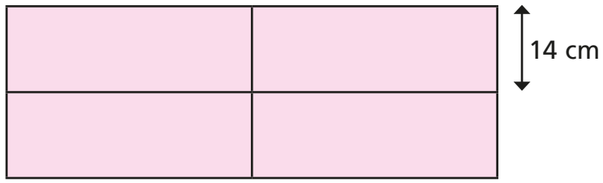
$g =$ 41·75

b) $32w = 1{,}960$

$w =$ 61·25

9 Four identical rectangles are connected to form a larger rectangle.

The total area of the larger rectangle is 924 cm²



Find the perimeter of the larger rectangle.

122 cm

Discuss your strategy with a partner.