

Week 4

This week in a nutshell:

Completing missing values in a geometric sequence could be supported with use of a calculator, in order to stress the importance of understanding over the chosen calculation method.

Products of binomials are featured again to give further practice and the chance to deal with any misconceptions.

Question 1: Geometric progressions

Question 2: Metric unit conversion

Question 3: Products of binomials

Question 4: Perimeter

Question 5: Identifying multiples

The questions aim to develop and deepen understanding over the week. Due to the necessity of the topics covered this week, there is an emphasis on the interchangeability of command words, and language flexibility. It may be worth taking some extra time this week to make sure your students are developing their mathematical literacy.

This week's ideas for class discussion include:

Question 1: **Geometric progressions**

- Why do you think we use the word “geometric” to describe these sequences?

Question 2: **Metric unit conversion**

- Name all the metric units you can.
- Name all the non-metric units you can.

Question 3: **Products of binomials**

- How many methods do you know for finding the product of binomials?

Question 4: **Perimeter**

- *reflect on previous learning*

Question 5: **Identifying multiples**

- What rules of divisibility can you remember?

Week 4: Day 1

- 1) Find the missing numbers in this geometric progression:

1, 5, __ , __ , 625, 3125, ...

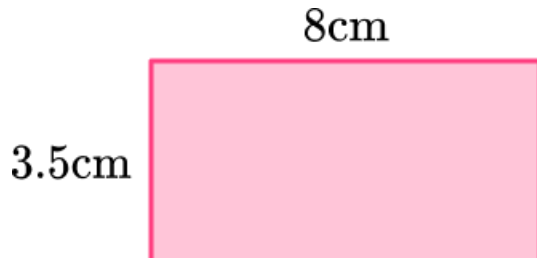
- 2) Make the conversion statement true:

239 cm = ____ m

- 3) Expand and simplify:

$$(x + 1)(3x + 1) =$$

- 4) Work out the perimeter:



- 5) Circle the multiples of 3:

871

549

726

Week 4: Day 1 Answers

- 1) Find the missing numbers in this geometric progression:

1, 5, 25, 125, 625, 3125, ...

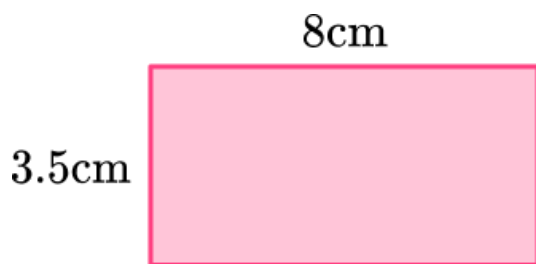
- 2) Make the conversion statement true:

239 cm = 2.39 m

- 3) Expand and simplify:

$$(x + 1)(3x + 1) = 3x^2 + 4x + 1$$

- 4) Work out the perimeter: 23cm



- 5) Circle the multiples of 3:

871

549

726

Week 4: Day 2

- 1) Find the missing numbers in this geometric progression:

3, 6, _____, _____, 48, 96, ...

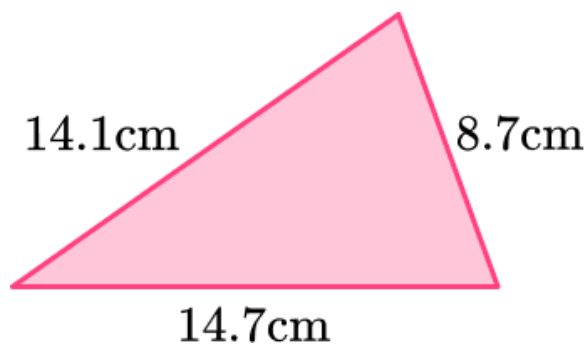
- 2) Make the conversion statement true:

_____ cm = 372 mm

- 3) Expand and simplify:

$$(3x - 2)(x + 2) =$$

- 4) Work out the perimeter:



- 5) Circle the multiples of 9:

1008

405

223

Week 4: Day 2 Answers

- 1) Find the missing numbers in this geometric progression:

3, 6, 12, 24, 48, 96, ...

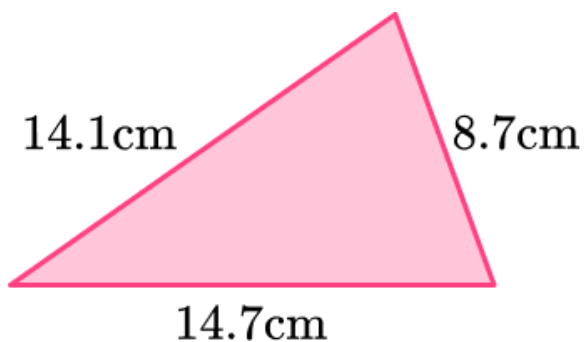
- 2) Make the conversion statement true:

37.2 cm = 372 mm

- 3) Expand and simplify:

$$(3x - 2)(x + 2) = 3x^2 + 4x - 4$$

- 4) Work out the perimeter: 37.5cm



- 5) Circle the multiples of 9:

1008

405

223

Week 4: Day 3

- 1) Find the missing numbers in this geometric progression:

2, 6, 18, 54, ____, ____ ...

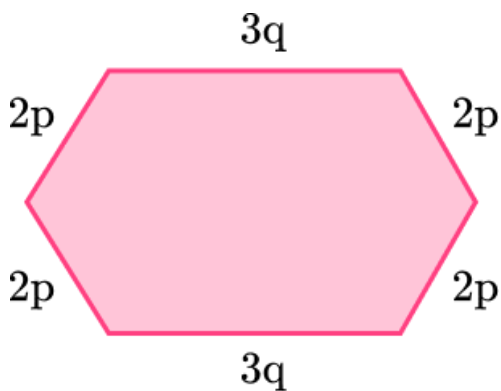
- 2) Make the conversion statement true:

4.4 m = _____ cm

- 3) Expand and simplify:

$$(2x - 3)(4x - 5) =$$

- 4) Find an expression for the perimeter:



- 5) Circle the multiples of 8:

642

702

632

Week 4: Day 3 Answers

- 1) Find the missing numbers in this geometric progression:

2, 6, 18, 54, 162, 486 ...

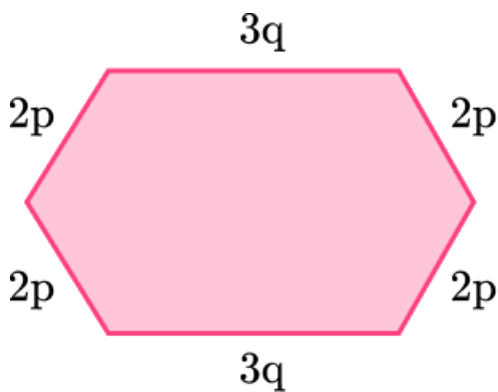
- 2) Make the conversion statement true:

4.4 m = 440 cm

- 3) Expand and simplify:

$$(2x - 3)(4x - 5) = 8x^2 - 22x + 15$$

- 4) Find an expression for the perimeter: $8p + 6q$



- 5) Circle the multiples of 8:

642

702

632

Week 4: Day 4

- 1) Find the missing numbers in this geometric progression:

____, ____, 200, 100, 50, 25, ...

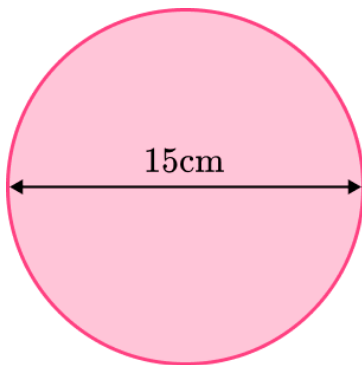
- 2) Make the conversion statement true:

7.8 g = ____ mg

- 3) Expand and simplify:

$$(4x - 7)(3x + 5) =$$

- 4) Work out the circumference, giving your answer to one decimal place:



- 5) Circle the multiples of 11:

781

888

693

Week 4: Day 4 Answers

- 1) Find the missing numbers in this geometric progression:

800 , 400 , 200, 100, 50, 25, ...

- 2) Make the conversion statement true:

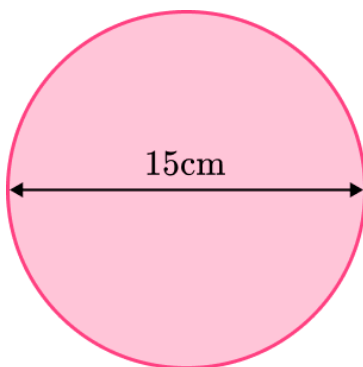
7.8 g = 7800 mg

- 3) Expand and simplify:

$$(4x - 7)(3x + 5) = 12x^2 - x - 35$$

- 4) Work out the circumference, giving your answer to one decimal place:

47.1cm



- 5) Circle the multiples of 11:

781

888

693

Week 4: Day 5

- 1) Find the missing numbers in this geometric progression:

$$\underline{\quad}, \underline{\quad}, 1, \frac{1}{2}, \frac{1}{4} \dots$$

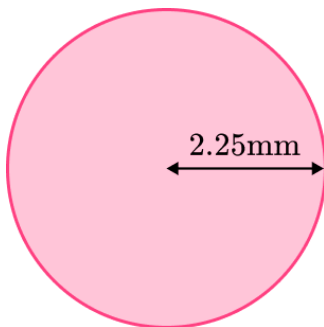
- 2) Make the conversion statement true:

$$14.5\text{kg} = \underline{\quad} \text{ g}$$

- 3) Expand and simplify:

$$(2x + 1)(x + 3) =$$

- 4) Work out the circumference, giving your answer to two decimal places:



- 5) Circle the multiples of 4:

298

576

3736

Week 4: Day 5 Answers

- 1) Find the missing numbers in this geometric progression:

$$\underline{4}, \underline{2}, 1, \frac{1}{2}, \frac{1}{4} \dots$$

- 2) Make the conversion statement true:

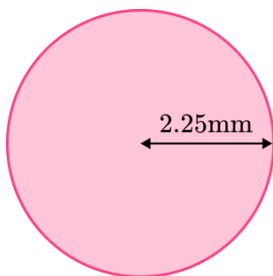
$$14.5\text{kg} = \underline{14500} \text{ g}$$

- 3) Expand and simplify:

$$(2x + 1)(x + 3) = 2x^2 + 7x + 3$$

- 4) Work out the circumference, giving your answer to two decimal places:

14.14mm



- 5) Circle the multiples of 4:

298

576

3736

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