

**MA1**

Consumer Arithmetic, Algebra & Matrices, Shape & Measurement

Goals

Learning Brief

**Week**

**Term**

**2020**

15

2

Unit goals

* Understand the concepts and techniques introduced in consumer arithmetic, algebra and matrices, and shape and measurement.
* Apply reasoning skills and solve practical problems.

This week:

* The Metric system
* Converting units
* Perimeter (of composite shapes)
* Area (of composite shapes)



Theoretical Components

Practical Components

There are questions to be answered in the booklet *Week 15 Notes & Exercises*

**Order of Work to complete**

1. Complete the questions in Google Classroom
2. Mathspace task
3. Upload your completed booklets for marking.

**Resources**:

For this week the theory work is in the *GC file:*

Week *15* Notes & Exercises

Reference sheet

Hawkermaths.com

<https://www.hawkermaths.com/uploads/1/1/7/0/11707964/4._geometry_shapes_and_solids.pdf>

Dotty paper for investigation:

<https://nrich.maths.org/content/id/8506/10mmDots%20square.pdf>

**Knowledge Checklist**

* Common units in the metric system
* Perimeter
* Composite
* Area
* Names of shapes

Investigation

See below

On Mathspace

On-line Quiz

Week 15 Investigation

*To work on this problem you may want to print out some*[*dotty paper*](https://nrich.maths.org/content/id/8506/10mm%20Dots%20square.pdf) (Link for you!)

When the dots on square dotty paper are joined by straight lines the enclosed figures have dots on their perimeter (*p*) and often internal (*i*) ones as well.

Figures can be described in this way: (*p*,*i*).
For example, the red square has a (*p*,*i*) of (4,0), the grey triangle (3,1), the green triangle (5,0) and the blue hexagon (6,4):



Each figure you produce will always enclose an area (*A*) of the square dotty paper.

The examples in the diagram have areas of 1, 1.5, and 6 square units.

*Check that you agree.*

Draw more figures in the table below and keep a record of their perimeter points (*p*), interior points (*i*) and areas (*A*).

**Can you find a relationship between these three variables?**

|  |  |  |  |
| --- | --- | --- | --- |
| Shape | Points (p) | Interior points (i) | Area (A) |
| Red |  |  |  |
| Brown  | 3 | 1 | 1 ½ |
| Blue  |  |  |  |
| Green |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |