



Year 7
Mathematics

ALBOE

A LITTLE BIT OF EVERYTHING

Written by Ian Brown

All About ALBOE...

I love maths. I enjoy the beauty of finding the solution to a mathematical problem and marvel at the accuracy and consistency of it. As a Christian, I see mathematics as a revelation of God's order, consistency and truth in creation.

But I also recognise that this is not the experience of everybody. For some, maths can seem confusing, complicated and just irrelevant. That is the exciting responsibility and challenge faced by educators in Mathematics, and that is one reason why this set of ALBOE books (*A Little Bit Of Everything*) focusing on mathematics were written and prepared.

In fact, they are to serve a number of purposes to students, parents and educators.

For students they are intended to give a broad range of practise scenarios and utilise their math skills over a variety of different concept areas. They have been written and compiled with the new Australian Curriculum in mind, focusing on the content strands of *Number, Algebra, Measurement, Geometry, Statistics* and *Probability* for the appropriate stage. The exercises are all based on materials from the associated levels (the Year 7 level is based entirely on the outcomes of the Year 6 course for example).

For parents they are intended to be a resource that will provide a consistent approach to the revision of material, as well as provide some type of framework for gauging the understanding and mathematical ability of their children.

For educators they are intended to be a resource to consolidate student learning, as well enabling teachers to better assess student outcomes from previously learned materials. The level of difficulty increases as the sheets progress, but should never be outside the scope of the student at any particular stage.

It is hoped that these exercises encourage and build the enthusiasm, ability and understanding of concepts and further develop mathematical ability and enjoyment. The solutions found at the back are intended to show the full 'practical' working, with some explanations to give further clarification if needed.

A big thankyou goes to all those students and young, budding mathematicians who assisted in checking, answering and giving feedback on the exercises contained within these pages.

Year 7 Mathematics

ALBOE: A little bit of everything

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All enquiries to Ian Brown.

About the author

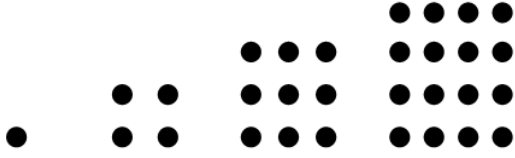
Ian Brown is an enthusiastic teacher and lover of Mathematics in a Christian School located on the sunny shores of Lake Macquarie, NSW. He has taught all levels of children from Kindergarten to Year 12 for almost 20 years, with a particular focus on Stages 4–6 (NSW Years 7 to 12). Ian has supported and advised teachers in their communication of Mathematics in the classroom, encouraging teachers to implement a variety of strategies to demystify, challenge and inspire students in Mathematics.

ALBOE, in the current form, is initially available for Stage 4 (NSW) in two volumes, being Years 7 and 8.

He lives in Newcastle with his beautiful wife and four children... and loves Maths 😊

1 Year 7 Mathematics

1. A series of dots are used to create the following shapes:



Shape 1 Shape 2 Shape 3 Shape 4

How many dots are used for shape 6?

.....

2. Solve the following:

$$\begin{array}{r} 1956+ \\ \underline{8041} \end{array} \qquad \begin{array}{r} 8410- \\ \underline{4187} \end{array}$$

3. What is 20% as a simplified fraction?

.....

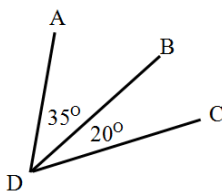
4. Letter tiles are used to make the word



A letter is chosen at random. Find the probability that a vowel is chosen.

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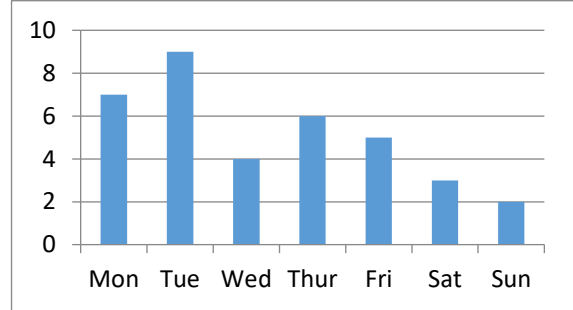
5. Find the size of $\angle ADC$ in the diagram:



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2 Year 7 Mathematics

1. The number of phone calls made during a week is shown in the graph below:



How many calls were made on the weekend?

.....

2. 2 m and 20 mm equals how many cm?

.....

3. Solve the following:

$$\begin{array}{r} 35 \times \\ \underline{28} \end{array} \qquad 6 \overline{)13254}$$

4. Find $\frac{3}{4}$ of \$80.

.....

5. The temperature at the start of the day is 13° . It increases by 12° by noon and then drops by 7° in the afternoon.

What is the temperature at the end of the day?

.....

3 Year 7 Mathematics

1. A car travels 420 km in 6 hours.
What is its speed in km / hr?

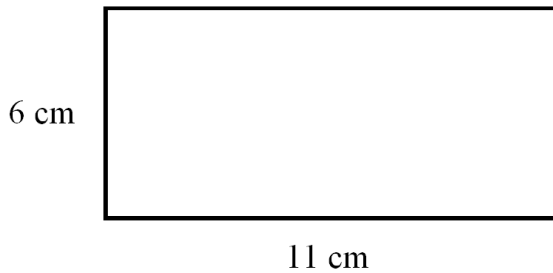
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2. Find the length of the following line to the nearest mm.



.....

3. Find the area of the following shape:



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.....

4. Barry buys 4 bottles of milk for \$3.20 each. How much change does he receive from \$20?

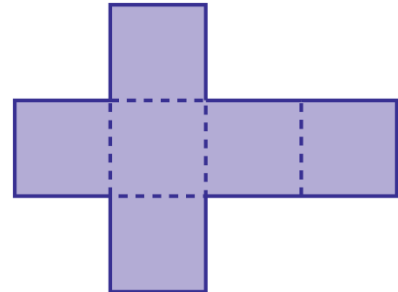
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5. $\frac{3}{4} - \frac{1}{2} =$

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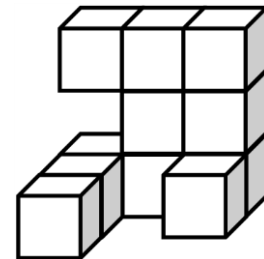
4 Year 7 Mathematics

1. What solid shape can be formed from the following net?



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2. How many cubes were used in the following solid:



.....

3. A number is increased by 6 and then doubled. If the result was 14, what was the starting number?

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.....
.....

4. Finish the number pattern:

4, 11, 18, 25,,,

5. What are the first 5 prime numbers?

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