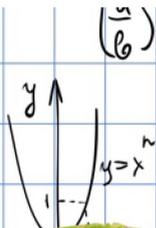


$$\frac{\sin^2(d+b) + \sin^2(d-b)}{2} = a^2 + b^2$$



$$\left(\frac{a}{b}\right)^m = \left(\frac{a^m}{b^m}\right)$$

$$\sin d = \frac{a}{c} \quad \cos d = \frac{b}{c}$$

$$\sin d \cdot \cos d = \frac{a}{c} \cdot \frac{b}{c}$$

$$\sqrt{a^m} = (\sqrt{|a|})^m$$

$$\frac{a}{b} : \frac{c}{d} = \frac{ad}{bc}$$

$$b^3 = a^3 + 3a^2b + 3ab^2 + b^3$$

How To Remember
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And Formulae

$$\frac{a}{b} - \frac{c}{d} = \frac{ad - bc}{bd}$$

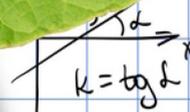
$$b^2 = a^2 + 2ab + b^2$$

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$\sin^2 d = \frac{1 - \cos 2d}{2}$$

$$(a-b)^2 = a^2 - 2ab + b^2$$

For GCSE
Maths



$$(a \cdot b)^m = a^m \cdot b^m$$

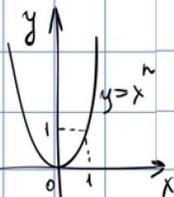
$$\sin 2d = 2 \sin d \cdot \cos d$$

$$\cos^2 d = \cos^2 d - \sin^2 d$$

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and
James Smith

$$c^2 = a^2 + b^2$$

$$\frac{\sin^2(d+b) + \sin^2(d-b)}{2} = a^2 + b^2$$



$$\sqrt{a^m} = (\sqrt{|a|})^m$$

$$\frac{a}{b} : \frac{c}{d} = \frac{ad}{bc}$$

$$b^3 = a^3 + 3a^2b + 3ab^2 + b^3$$

**HOW TO REMEMBER EQUATIONS AND FORMULAE
FOR GCSE MATHS**

Phil Chambers and James Smith

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This book is adapted from Phil and James' comprehensive *How To Remember Equations And Formulae*, intended for students, teachers and other employees in maths and science, especially physics, economics, business studies, accountancy and engineering, available here:

www.rememberequations.co.uk

and for Kindle from:

<http://www.amazon.com/dp/B00JXMQNT8>

and

<http://www.amazon.co.uk/dp/B00JXMQNT8/>

CHAPTER FOUR:

The Technique

In this chapter, we introduce you to the only set of associations for symbols and letters you will need to remember for GCSE Maths.

In most cases, the image shares a similar sound to or rhymes with the symbol's name; occasionally, we also suggest an association with the symbol's shape. As you study the list, you should be able to see how each suggested association coincides with at least one of the SEAHORSE principles.

Please note that these are only our suggestions. Your own associations are likely to be more powerful for you. We encourage you to replace those you dislike with your own most vivid images. If you like, please send us your best associations and we may include them in a future edition.

Numbers:

Number	Association	Image
0	ball	
1	paintbrush	
2	swan	
3	heart	
4	sailing boat	

The Roman Alphabet:

Letter	Association	Image
A a	hay	
B b	bee	
C c	sea	
H h	H-bomb (mushroom cloud)	
L l	shell	

Example 1: the volume of a prism

$$\frac{1}{2}bhl$$

For this equation, I will be using a walk through the local restaurant-bar where I occasionally enjoy a weekend buffet lunch with my extended family. Six symbols so six stages:

Stage Number	Stage On Journey	Associated Symbol
(1)	parking space	1
(2)	restaurant entrance	/
(3)	entrance line	2
(4)	carpeted area	b
(5)	buffet	h
(6)	smorgasbord	l

Leaving the (1) *parking space*, whose marking lines are being touched up by a maintenance worker with a **paintbrush (1)**, I nearly slip at the (2) *restaurant entrance* on an astray **cricket ball (/)**. Having arrived early, I stroll, the aromas from the approaching kitchen and dining area increasingly making my mouth water, past a **swan (2)**

waddling about the (3) *entrance line*. I spot a **bee (b)** buzzing across the (4) *carpeted area*. Reaching the (5) *buffet*, the plumes of steam rising from the presented meat and vegetables resemble an **H-bomb mushroom cloud (h)**. Not seeing any seafood I look instead for it at the (6) *smorgasbord* to my rear, where I notice a presentation of **shells (l)**.

APPENDIX TWO:

Further Reading and Resources

Tony Buzan

The Memory Book (BBC Books, 2010)

The Mind Map Book (BBC Books, 2010)

Use Your Head (BBC Books, 2010)

Dominic O'Brien

How to Develop a Brilliant Memory Week by Week
(Duncan Baird Publishers, 2005; 2014)

You Can Have an Amazing Memory (Watkins Publishing, 2011)

How to Pass Exams (Duncan Baird Publishers, 2007)

WEBSITES

Learning Technologies Ltd:

www.learning-tech.co.uk

Memory improvement discussion site:

<http://mnemotechnics.org>

Yahoo Group, The World Wide Brain Club:

<http://groups.yahoo.com/neo/groups/wwb>

More information on the systems in this book:

www.remberequations.co.uk

www.facebook.com/HowToRememberEquationsAndFormulae