

Revision time

Length, Area & Volume

Area of a triangle = $\frac{1}{2}bh$

Area of a parallelogram = bh

Area of a trapezium = $\frac{1}{2}(a+b)h$

Area of a circle = πr^2

Circumference of a Circle = πd

Volume = Cross Sectional Area \times Length

Trigonometry

SOH CAH TOA

$\sin x = \frac{o}{h}$ $\cos x = \frac{a}{h}$ $\tan x = \frac{o}{a}$

Pythagoras

For right angled triangles ONLY

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

If finding the hypotenuse ADD
If finding a shorter side SUBTRACT

Equation of a Line

$y = mx + c$
m is the gradient, c is the y-intercept

Gradient of a Line

The gradient of a line is the slope
Gradient = change in y = change in x
(vertical = horizontal)

Gradient = $6 \div 4 = 1.4$

Compound Measures

D – Distance
S – Speed
T – Time

M – Mass
D – Density
V – Volume

Histograms

Frequency Density = $\frac{\text{Frequency}}{\text{Class Width}}$

Frequency

Cumulative – plot points at the END of the boundary
Polygon – plot points in the CENTRE of the boundary

Fractions

Add/Subtract – MUST have the same denominator
Multiply – multiply numerators, multiply denominators
Divide – flip the second fraction, then multiply

Quadratic Formula

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$3x^2 + 4x - 2 = 0$
a = 3
b = 4
c = -2

Similarity

Similarity = Scale Factors!

Length scale factor = 2
Area scale factor = 2²
Volume scale factor = 2³

4cm A 6cm B

- If the height of A = 4 and B = 6
Length scale factor = 1.5
- If the surface area of A = 132cm², B = 2
Surface area of B = 132 x 1.5² = 297cm²
- If the volume of B = 405cm³, A = 2
Volume of A = 405 \div 1.5³ = 120cm³

Recurring Decimals – Fractions

If $x = 0.4444444$ If $x = 0.54545$
10x = 4.4444444 100x = 54.545454
9x = 4 99x = 54
 $x = \frac{4}{9}$ $x = \frac{54}{99}$

Enlargement

Always count FROM the centre of enlargement

Scale Factor 5 – increase the directions x5
Scale Factor $\frac{1}{4}$ – quarter the length of directions
Scale Factor -3 – increase the directions x3 and go in the opposite direction
Scale Factor $-\frac{1}{6}$ – half the directions and go in the opposite direction

Venn Notation

U = union (or)
∩ = intersect (and)

Compound Interest

amount \times multiplier^{time period}

With GCSEs fast approaching, thoughts in the maths department are turning to revision and how best to prepare for exams. Pupils often ask me what is the best way to revise for exams and my answer is always the same, it's a case of just doing lots and lots of practise questions. The more questions you can do and have a go at in your revision, then the less surprises you can expect come exam day. We have lots of opportunities for help here in the maths department so feel free to come along to clinic on a lunchtime. There will be at least one teacher to give help every day. Bring a past paper, ask for some exam questions, do some work from the textbook. Remember, the more questions you do, the better. Some of my personal favourites in terms of websites to use include, Maths Genie, Corbett maths and Physics and Maths Tutor has an abundance of past papers on there. Remember, the more questions you do the better. Please, if you need any help, pop and see any member of the maths department and they can guide you on what to do to help with your revision.

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