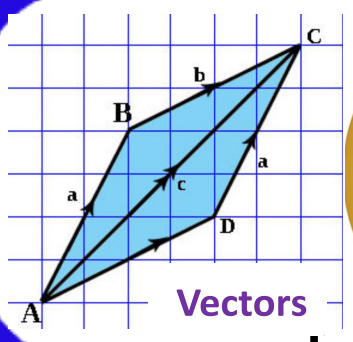
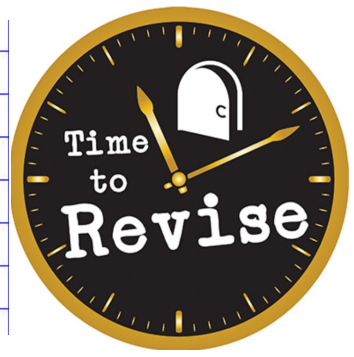
Year 13 Pure Maths

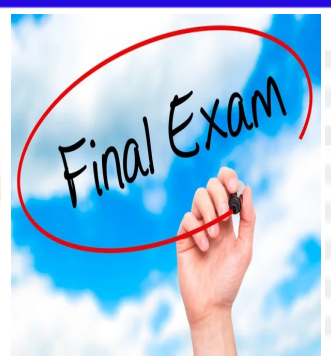
LEARNING JOURNEY

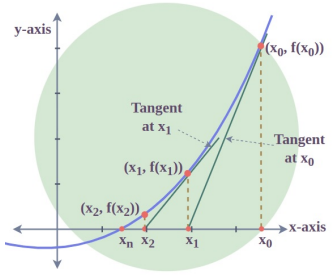
integral®

FHS





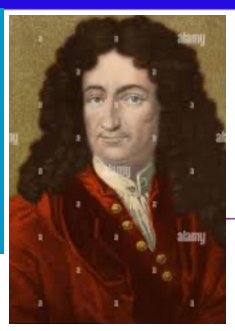


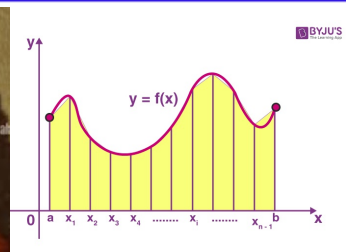


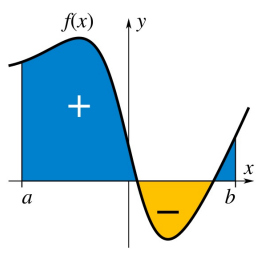
Iteration

$$x_{n+1} = \sqrt[3]{2x_n + 3}$$

Numerical methods





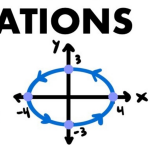


Integration

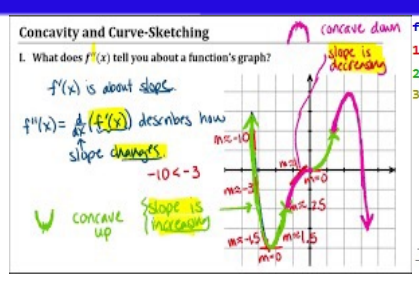
PLANE CURVES & PARAMETRIC EQUATIONS

$x = 4\cos t \quad y = 3\sin t$

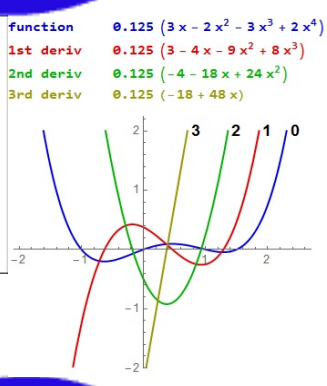
$0 \le t \le 2\pi$



Parametric equations

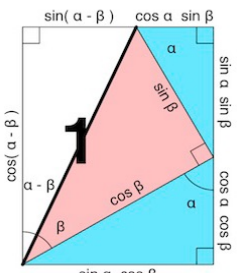


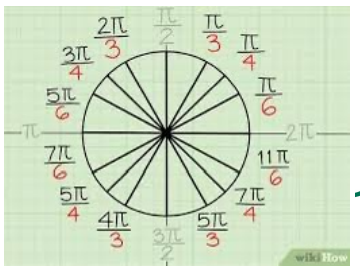
Differentiation



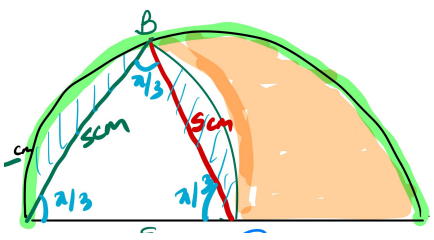
The Harmonic Form (Rcosx+a)

Trigonometric functions



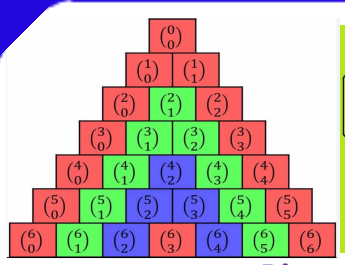


Trigonometry & modelling



Radians

Trigonometric functions



Binomial Distribution

$P(x = r) = {}^{n}C_{r}\, p^{r}\, q^{n-r}$

Mean = n·p

Variance = n·p·q

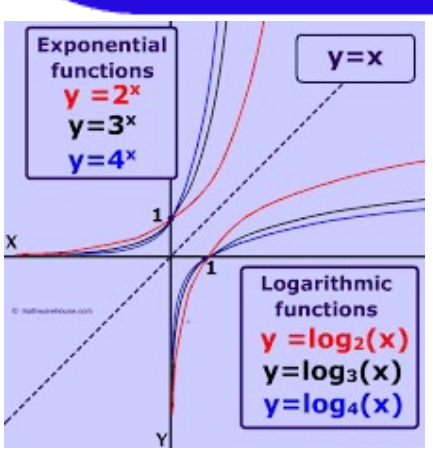
Binomial expansion

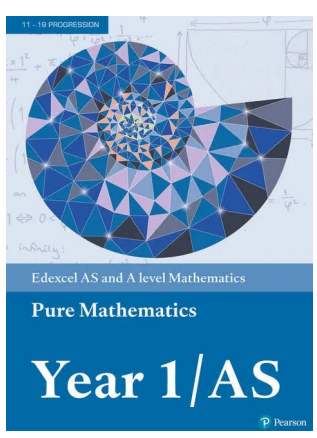
$$\sum_{r=2}^{4} 4r^2$$

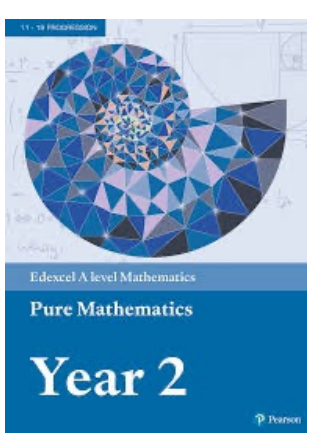
4 ← Highest r value; $4r^2$ ← General expression; $r=2$ ← Initial r value

Sequences & series

YEAR 13







$$\sin(2x) = 2\sin x \cos x$$

$$\cos(2x) = \cos^2 x - \sin^2 x$$

$$\cos(2x) = 1 - 2\sin^2 x$$

$$\cos(2x) = 2\cos^2 x - 1$$

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