

Higher Maths Key Knowledge

Exact Values

f(x)	0	30	45	60	90	180
Sin(x)						
Cos(x)						
Tan(x)						

Radian to Degrees: Complete the table

Radians	Degrees
π	
	90°
	45°
$\pi/3$	
$\pi/6$	

Straight Line

Gradient between two points :

General Formula for straight line :

Formula links gradient and angle with the x axis :

If M_1 is Perpendicular to M_2 then $M_1 \times M_2 =$

How can find distance between two points A (x_1, y_1) and B(x_2, y_2)

What the two properties of a

- Perpendicular Bisector:
- Median:
- Altitude:

Circle

If two circles are congruent:

If two circles are concentric:

To find the gradient of tangent to a circle :

How do you show two circles do not intersect?

How do you show two circles touch at one point?

State the quadratic formula

State the discriminant formula?

Functions

How has the graph $y = f(x) + k$ been transformed?

How has the graph $y = f(x+k)$ been transformed?

How has the graph $y = kf(x)$ been transformed?

How has the graph $y = f(kx)$ been transformed?

How has the graph $y = -f(x)$ been transformed?

How has the graph $y = f(-x)$ been transformed?

If $f(g(x)) = x$ then the functions are _____

Calculus:

To find the gradient of tangent at values x:

Turning points occur when:

An increasing function is when?

An decreasing function is when?

How find the area between two curves ?

Wave Function:

In the wave function what is the formula for k?

In the wave function what is the formula for a?

Logs

What is the value of $\log 1 =$

What two coordinates will an exponential graph of base a pass through?

What two coordinates will a logarithmic graph of base a pass through?

Examples

$\log a + \log b =$

$\log a - \log b =$

$2 \log a =$

What is the inverse function of \ln (natural log) ?