

Risp 5: Tangent through the Origin

You will need a graphing package for the following.

*Pick a number, any number,
between 0 and 5, & call it a.*

Square a, add x^2 and draw the graph of $y =$ this (a curve).

Add the line $y = kx$.

*Now, by experimenting with the constant controller, try to find
a value for k so that this line touches the curve.*

How are a and k related?

Try starting with other values of a: can you find a general rule?

Can you prove your conjecture?

How could we calculate where the line and the curve touch?

Now pick any value for a, and any value for b.

Where does $y = kx$ touch $y = x^2 + bx + a^2$?