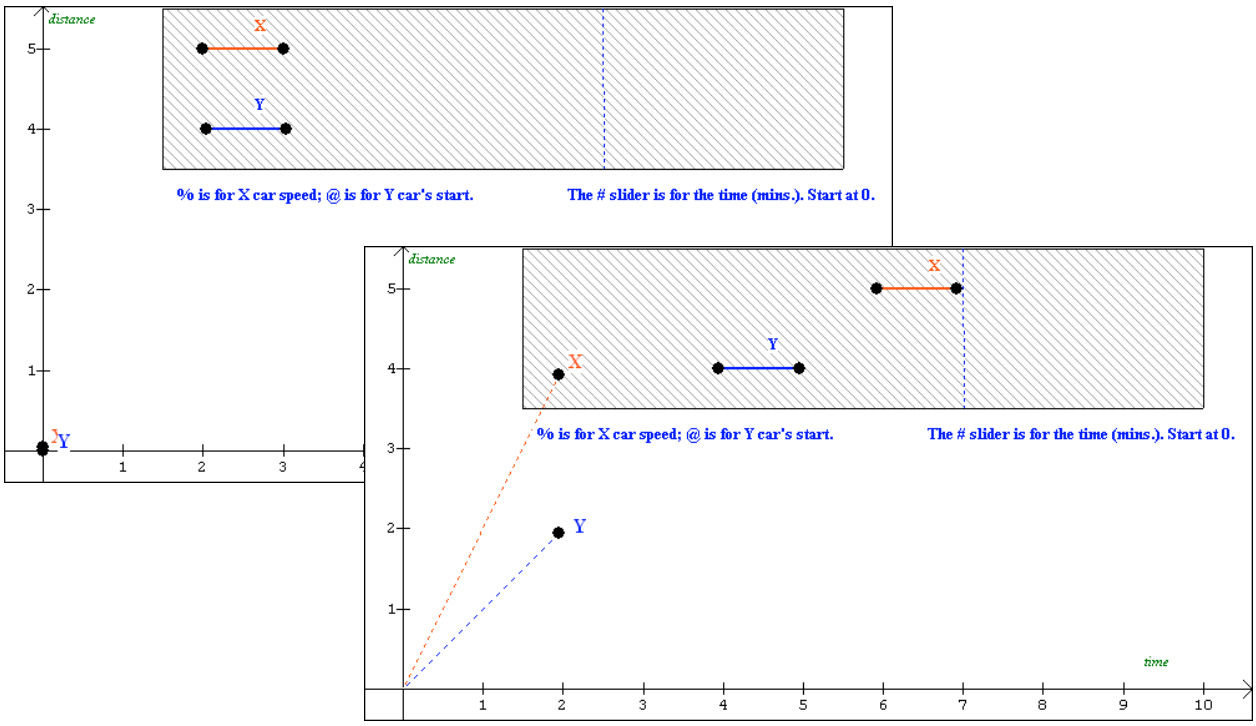
Make Maths Come Alive with TI Technology

Distance/Time graphs – Technology mix

- activity developed with Geoff Dix, Rosebank College for his Yr 11 class

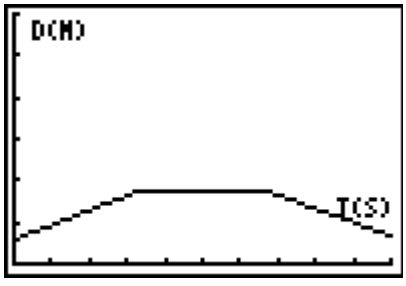
In this lesson we used a mix of technologies to investigate aspects of distance/time graphs. An interactive animation in WinGeom provided stimulus to the lesson and an opportunity for students to directly investigate the effect of changing variables in y = ax + b. A follow-up activity with the CBR (Calculator-Based Ranger) then allowed students to physically make the distance/time graphs themselves.

Geoff had a pre-written WinGeom activity he called "racecar". With no explanation of what the animation was about, he simply presented the picture to his students (with laptop linked to digital projector) and invited them to "play" with the variable sliders.



The animation came to life immediately and students were quick to explain the situation being modelled. It was clearly an unfair race if speeds and starting positions remained the same. Speed values were discussed and easily seen as the gradient property of the lines. Another option for helping out the Y-car was to give it a head start (+ c).

We followed this activity and discussion with **CBR Distance Match**, which reinforced the ideas of speed and starting point. We used a metre ruler to physically measure the starting point, analysed each component of the graph (considering positive, negative and zero velocities) then students physically did the walk to match. Another fun aspect can be added to this by turning off the over-head projector when the student walks. If the analysis (owned by the whole class) is good then a good match will be seen when the over-head is switched back on.



The technologies used here each have their own strengths and complemented each other to produce a balanced and effective lesson.

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