I was surprised at how many resources have been provided for this unit, and of those, the large variety that are technology resources. For example maths300, the National Library of Virtual Manipulatives, the Learning Federation, HOT*maths* and many more. One piece of technology that I have found extremely useful is the geogebra software. Geogebra is an interactive geometry program that enables users to create various geometric shapes using a range of tools. It is a free downloadable software constructed for use in the mathematical areas algebra and geometry, hence geogebra. There is also a version called geogebraprim which was designed to be more accessible for primary school students. Geogebra has many different tools for creating different shapes, angles and marking points on graphs. There are also various tools to measure angles, areas and perimeters of shapes.

It took me a while to get use to how geogebra operated. For me I think it was some of the mathematical terms that I was not familiar with. Upon opening the software there are icons along the top of the page. By clicking on an icon it displays a drop down menu with two or more options for that icon. For example if you click on the *point* icon the drop down menu gives you the option of creating a new point, placing a point on an object, attach/detach a point and so on. You can also choose a *perspective* to be in; algebra and graphics, basic geometry, geometry, and spreadsheet and graphics. By selecting the different perspectives the icons across the top of the page change. I used it in the geometry perspective and by doing so was given the icon options of points, lines, intervals, polygons, circles, angles etc. You also get the option of displaying the axes and grid lines or keeping them hidden. So as an example; to create a triangle you would select the polygon icon, and click anywhere on the screen three times. Then to measure the angles on the triangle you would select the angle icon. To get the angle of point B you would click on A, B and C (or vice versa) the angle measurement then appears as soon as you have selected the last point.

One concept that geogebra helped me with was creating triangles and testing the '*all internal angles of any triangle will add up to 180°'* theory. It wasn't that I didn't believe it to be true, but for me to truly gain a clear understanding as to why they all equate to 180°. I had to see it for myself and test it with all different types of triangles. This

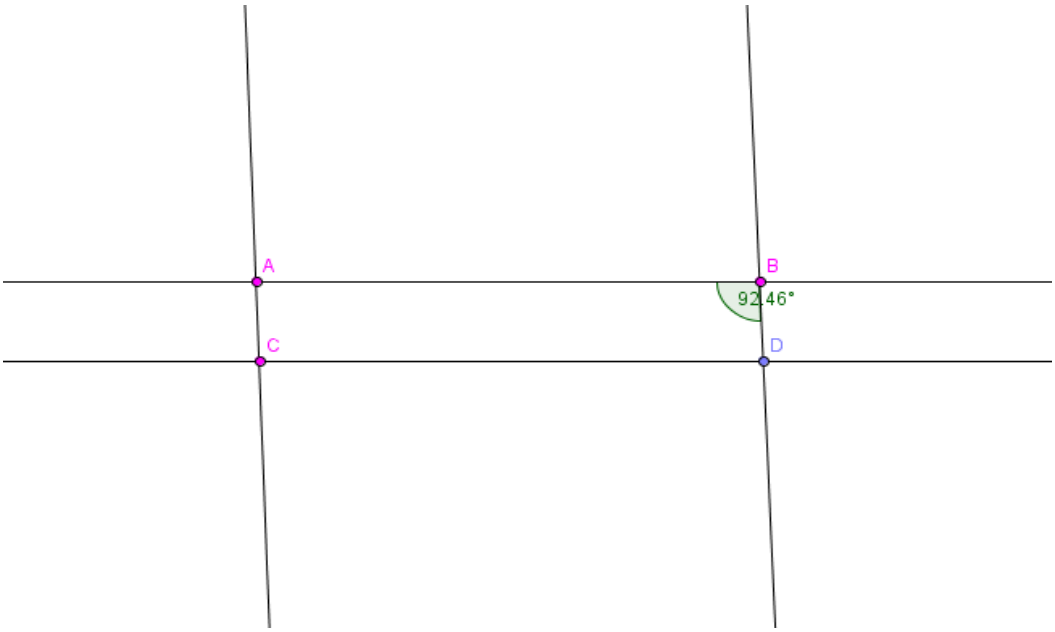
method refers back to my learning style of being a kinaesthetic learner. I did this by using the above example of creating a triangle. I then measured all the internal angles, and added them up to check they equated to 180°. I then selected the mouse icon which allows the user to move the objects on the screen and altered one point of the triangle, to make the angles change. I then re-added them and still got 180°. I did this over and over and altered the triangles points in as many different ways as I could. After each alteration I continued to re-add the angles, and every time I still got 180°. I find it brilliant that no matter how much you alter one point of a triangle the internal angles still add up to 180°. Not just seeing this, but actually understanding that they all add up to 180° because a straight line equals 180°.

Another concept that I used geogebra for was to practice working out and identifying the co-interior, alternate, and corresponding angles of a transversal line going through a set of parallel lines. I did this after our workshop on geometric relationships. During the workshop Barry gave us some examples of transversal lines going through sets of parallel lines with one angle labelled. He then asked us to work out all the remaining angles without measuring them with a protractor. After the workshop I felt that I still needed some practice with this so using geogebra I created my own parallel lines with transversals. Firstly, to create this in geogebra I came across a bit of difficulty as I couldn't at first work out how to create two parallel lines. I tried drawing them myself first but couldn't seem to get them exactly parallel. I found under the *line* icon, an option for parallel lines. I selected this option clicked on the screen and a point appeared, but no parallel line. So instead I placed one point and then selected the option of placing a line through two points. I clicked the first point that I had created and a straight line appeared I clicked again and a second point was placed. I then had to create a line parallel to the first so I went back to the parallel line option and created a second line parallel to the first. I repeated this to insert two transversal lines going vertically through the parallel lines. I then marked one angle and would work out the other angles by first finding the corresponding angles, then the co-interior, and then the alternate angles. Once I had found all angles the relationship between the co-interior angles was clear that they were also supplementary and are not congruent. It also became clear to me that vertically opposite angles, corresponding, and alternate

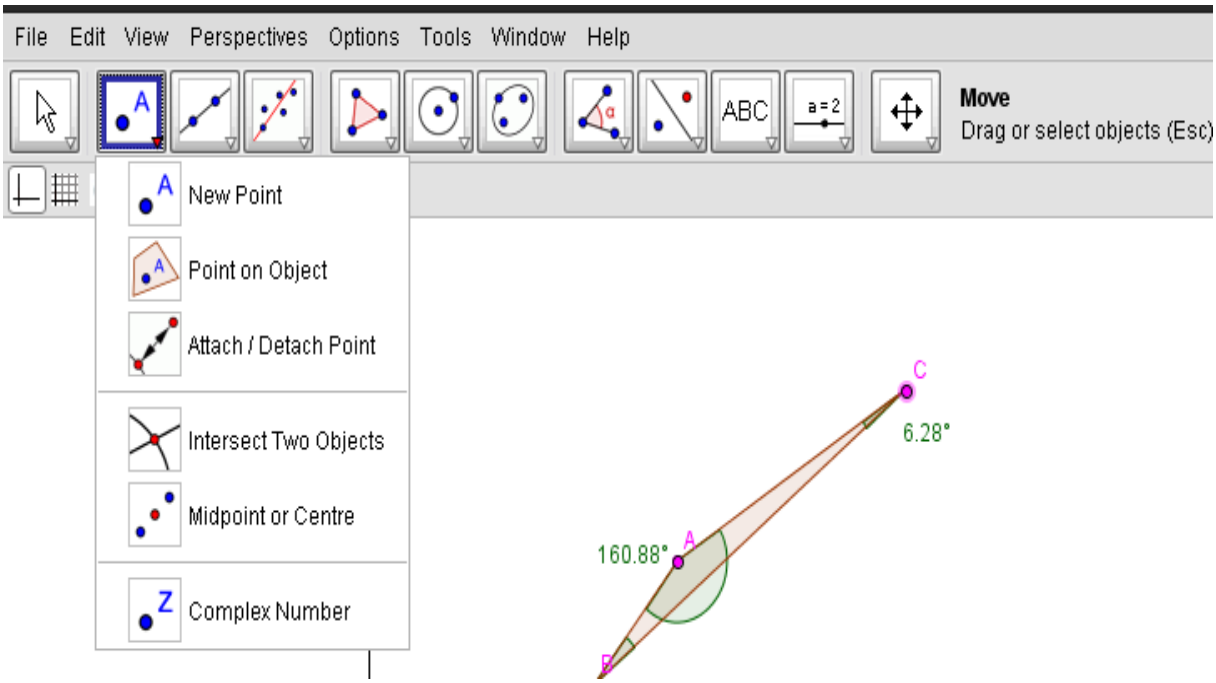
angles are congruent and always are. The great thing about using geogebra was that I could check all the angles to make sure I had worked them out correctly.

I think geogebra would be a great resource to use within the classroom. It would be relevant to many geometry related lessons. I would more so aim at using it with upper primary and secondary students as it would be too complex for lower primary. It would be a great tool for children to learn aspects of geometry because it's so interactive in comparison to drawing with pencil and paper. This way students can draw for example a triangle, and like I did alter the points and see the angles changing instantly. You can't get that experience by drawing on paper. It can be used when some concepts may be too difficult for the students to visualize. It can be used as a group activity or individually, and parents can download it at home for their children to use.

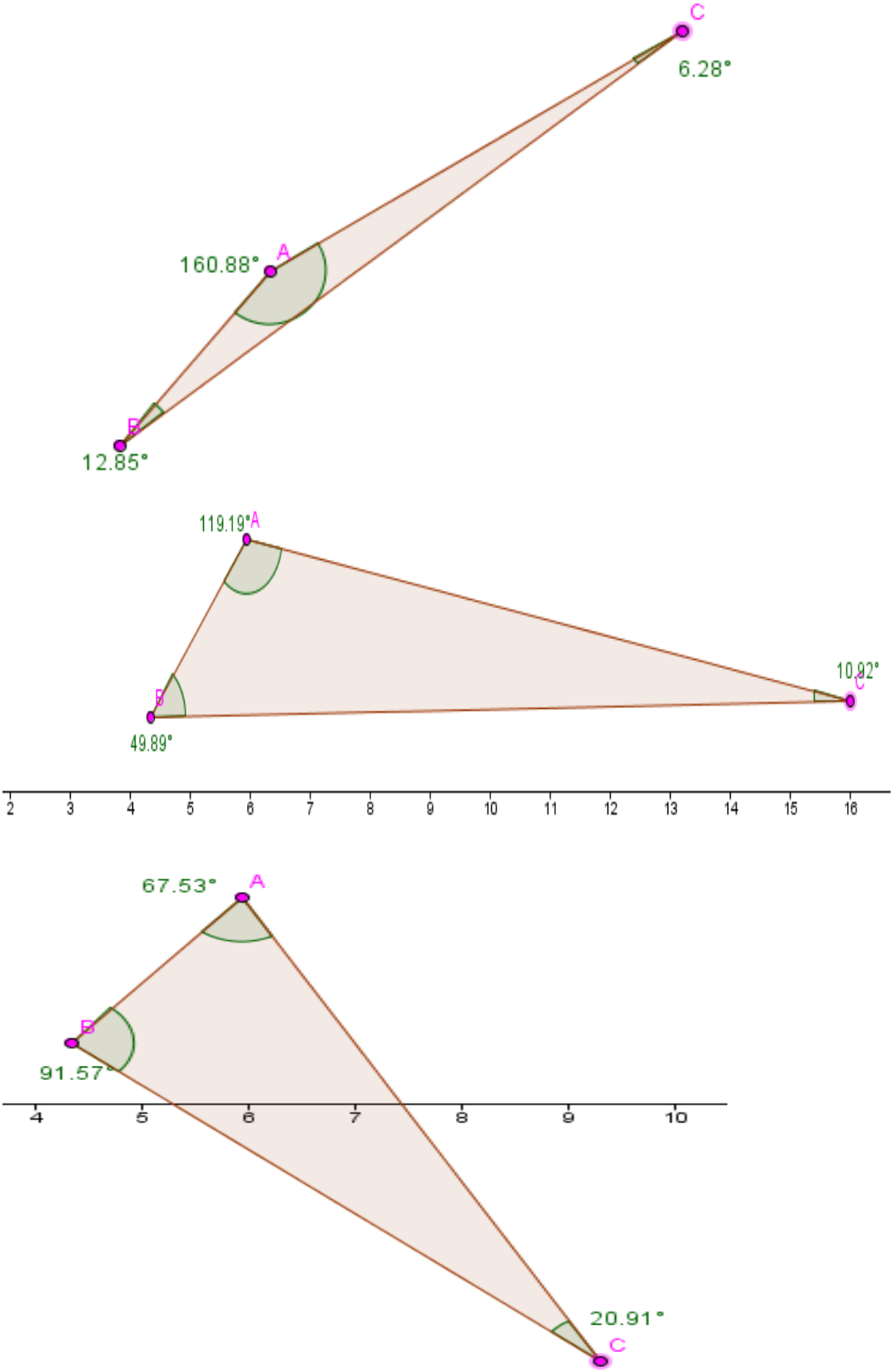
In conclusion, geogebra has enabled me to gain a clearer understanding of some mathematical concepts that I was having difficulty with. It wasn't so much having difficulty with the maths component, but with being able to say that I truly understood the reason for why we do it *that way.* Geogebra has allowed me to experiment with mathematical concepts and gain confidence in the knowledge that I contain of such concepts. The various technology tools that have been provided during this unit have helped engage me into wanting to learn more about each topic week to week. I will definitely take geogebra with me during my teaching career and am confident that I will be able to engage my students with this particular technology as it has engaged me.



Transversal and parallel lines



Drop down menu



Examples of my experimentation with all internal angles of a triangle equating to 180°.