MCV 4U Learning Goals and Success Criteria
Chapter 8: Equations of Lines and Planes

Learning Goals	
I will be able to represent lines and planes using scalar, vector, and parametric equations, and solve problems involving distances and intersections. (GA4)	
Success Criteria	
I can: • Recognize a scalar equation for a line in R^2, and represent a line using a vector or parametric equation (convert between forms!) • Recognize that a line in R^3 cannot be represented by a scalar equation, and represent these with the scalar equations of two intersecting planes, or vector and parametric equations. • Recognize a normal to plane geometrically and algebraically, and determine properties of the plane. • Determine the scalar, vector, and parametric equations of a plane given one of the other forms. • Solve problems relating to lines and planes in R^3, and interpret the result geometrically.	
Quest Information:	
Your "Quest" is Thursday, June 11th. Please meet in Teams at class time to complete it. If you need to make alternate arrangements please do so by Wednesday, June 10th at 3 pm. After that you will be expected to access the assessment during regularly scheduled class time.	
There is a more detailed outline below. These are the types of questions you can expect. To prepare well for this test, you should (in this order): • Review the videos and notes and makes study notes. We learned new vocabulary, so be sure that you actually understand it! • Review your quiz and go through the examples in the notes and be sure that you can do them yourself. • Complete questions in the suggested review that you think you need to do. **The text book should be your last stop, not your first!**	
Questions to Expect	• Explain what a normal vector is, and explain how you use it to find the Cartesian equation of a plane. • Write an equation of a line in R^2 in three different forms. • Write an equation of a line in R^3 in three different forms and explain why Cartesian (or scalar) form is not possible in three-space. • Find the angle formed between two lines. • Write an equation for a plane in vector and parametric form given some information. • Write an equation for a plane in Cartesian form given a point and a line, and then given three points. • Determine whether or not a point is on a plane. • Determine the angle between two planes.
Text book Questions:	The review is long. I have selected some questions that might be relevant, but focus on notes, your quiz, homework, etc. The Chapter Test is actually a little more useful than the review. p. 480 #1 – 3, 6 – 9, 11, 13, 16, 19 – 21, 25, 29 – 31, 33 p. 484 #1, 3 - 6