MA061 Exercises 3: Mathematica

Notes on Mathematica will be at `http://www.maths.tcd.ie/~richardt/MA061`
Generate a Mathematica notebook with the solutions to the following problems and save as `ex3.nb`.

Save your work using "Save As ..." under "File" in the Mathematica menu. See section 3.14 of the notes.

Send in your work electronically by using the program `submit-work` to send in the file `ex3.nb`. Submit under `MA061:3`.

1. Factor your student ID number as a product of primes.

   [For most of you it begins with 10, say 10123456 and so the idea is to use the `FactorInteger[ ]` command.]

2. Then multiply the primes together to see that you get the number.

3. Get Mathematica to factor $5x^2 + 13x - 6$.

4. Get Mathematica to find the solutions of the equation $2x^3 - 6x^2 - x + 8 = 0$ in two ways. First get an exact formula for the solutions (no decimals) and then get the solutions as decimals (approximate values).

5. Plot $y = \sin 2x$ for x in the range $-5\pi \leq x \leq 5\pi$.

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