Mh4718 Worksheet 4

1. Which of the following can be stored exactly as floats?:

   (i) 0.12356, (ii) 10^{-6}, (iii) 0.015625, (iv) 0.109375 (v) $\dfrac{6}{192}$
   (vi) $\dfrac{3}{124}$ (vii) $\dfrac{1}{16}$, (viii) 0.0038762322. (vi) $2^{25}+2$.

2. (i) `=7^18` is entered into a cell in an Excel spreadsheet.
   The cell is formatted to dispay a number with 0 decimal places.
   The value displayed is 1628413597910450.
   Explain how we know that the number displayed is not equal to 7^{18} without directly calculating 7^{18} and explain why Excel does not display the exact value.

   (ii) `=7^17/5^3` is entered into a cell in an Excel spreadsheet.
   The cell is formatted to dispay a number with 3 decimal places.
   The value displayed is 1861044111897.660
   Explain how we know that the number displayed is not equal to $\dfrac{7^{17}}{5^3}$ without directly calculating $\dfrac{7^{17}}{5^3}$ by some other means. and explain why Excel does not display the exact value.