Mathematics 2 **Number Theory 2**

Q1. For each of the following Diophantine equations determine if there are solutions and if there are find the general solution.

i. $21x + 13y = 1$

ii. $21x + 35y = 12$

iii. $56x + 138y = 2$

iv. $71x + 50y = 1$

v. $84x + 438y = 6$

vi. $123x + 360y = 3$

vii. $325x + 26y = 13$

viii. $966x + 686y = 71$

Answers start on next page. Please try the questions before looking at the answers!