

MATH 110-001 QUIZ 1

September 22, 2017

Time: 15 minutes

Show all your work. No calculators, no books/notes are allowed.

Name (please print): _____

Student number: _____

1. (5 marks) Find the equation of the line passing through the y-intercept of the parabola $y = x^2 - 2x - 9$ and the x-intercept of the line $y = -7x - 13$.

2. (4 marks) We have the following functions:

$$f(x) = \frac{x}{x-3} \quad g(x) = \sqrt{1+x} \quad h(x) = \begin{cases} 2x & \text{if } x \leq 1 \\ 5-x & \text{if } x > 1 \end{cases}$$

a) Compute $f \circ h(1)$

b) Compute $h \circ f \circ g(15)$

Bonus (2 marks): Find the equation for $f \circ g(x)$ and its domain