Quiz 6 — MA16020 — January 26, 2018

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1. (7 points) Solve the differential equation

$$y'(t) = (y/t)^2$$

where $y(2) = 2/5$.

2. (3 points) Write (but do not solve) a differential equation to describe the following situation. The viral load (the number of infected cells) in a person infected with influenza changes at a rate jointly proportional to the number of infected cells and to the number of cells which have not yet been infected. Note: the human body has about 10^{14} (100 trillion) cells total. Choose suitable letters for your constants and variables.