Mech 2 Math Suggested Problems Week #4

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1. **Section 2.10:** # 3

2. Consider the initial value problem

$$y' = y^2 \ \text{ with } y(0) = 1$$

   (a) Obtain an explicit solution of ths problem and determine the interval of existence of the solution.

   (b) Run Euler's method for this problem on the interval $0 \le t \le 1.2$ using step size $h = 0.1$.

   (c) Compare the numerical solution above to the exact solution. Is the numerical solution in any way misleading? Explain.

3. **Section 7.2:** # 7, 9