MATH 246 Homework 1.7
Justin Wyss-Gallifent

Directions:

- Work should be done neatly and on separate paper.
- Enough work must be shown so that the steps you are taking is clear.

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1. Consider the IVP:
$$y' = ty + 2t \text{ with } y(0) = -1$$
   (a) Use Euler's Method with $n = 4$ iterations of size $h = 0.25$ to approximate $y(1)$ for the IVP. Fill these in a nice table. Approximate all values to two digits beyond the decimal point.
   (b) Repeat with the Runge-Trapezoidal Rule.
   (c) Repeat with the Runge-Midpoint Rule.
   (d) Solve the IVP.
   (e) Calculate $y(1)$ and compare your answers. Comment.