

QUIZ ONE, MTH 205, FALL 007

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Name \_\_\_\_\_, Id. Num. \_\_\_\_\_, Score  $\overline{15}$

**QUESTION 1.** 1)  $2w \frac{d^2k}{dw^2} - (7w + 1) \frac{dk}{dw} + wk = w^2 - 7$ . Order = ( ). Check: Linear( ), Non-linear( ).

2)  $\frac{dw}{dn} - 6n^2w = 7w$ . Order = ( ). Check: Linear( ), Non-linear( ).

3)  $(3x + xy)dx + x^2dy = 7$ . Order = ( ). Check: Linear( ), Non-linear( ).

**QUESTION 2.** Find  $m$  so that  $y = e^{mx}$  is a solution to  $y'' + 5y' + 4y = 0$ .

Find an EXPLICIT solution on an OPEN INTERVAL for  $\sqrt{y}dx + \sqrt{x}dy = 0$

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