

## MA 262 - Quiz 1 (Lessons 1–2)

1. Find all  $m$  such that the function  $\varphi(x) = x^m$  is a solution to the equation

$$5x^2 \frac{d^2y}{(dx)^2} + x \frac{dy}{dx} + \frac{4}{5}y = 0 .$$

2. Find all solutions (in implicit or explicit form) of the differential equation

$$\frac{dy}{dx} = 3e^{-y}x^2 .$$