

Math 205 Midterm 2 Review Solutions

1. $p_1 = 1 + 2x$, $p_2 = 1 + 2x + 2x^2 - \frac{1}{2}y^2$, $e^{-2} \cos .2 \approx 1.2$.
2. $f(-2, 2)$ is a minimum.
3. (I meant for this to be 2-d problem). Max temp is $4(\sqrt{3} - 1)e^{-4+2\sqrt{3}}$.
4. There are equilibrium points at $(0, 0, 0)$, $(\pm \frac{1}{\sqrt{2}}, \pm \frac{1}{\sqrt{2}}, -\frac{1}{2e})$, $(\mp \frac{1}{\sqrt{2}}, \pm \frac{1}{\sqrt{2}}, \frac{1}{2e})$.
5. Minimum distance is 1
6. Owners should price the Arabian at $x = \$2.70$ and the Hawaiian at $y = \$4$ per pound.
7. 3
8. $\frac{-2^7}{5}$
9. 2