

MATH 20000: Homework 2

Due Wednesday Oct 14

Problems: For full credit you need to show all the work leading to your solution.

2.3: 8, 10, 18, 23

2.4: 5, 6, 18, 23

2.5: 10 (for part (b) use calculus, not a calculator), 17

2.6: 4, 8(a), 13, 27 (note that when it says tangent of angle it means $\tan \theta$)

3.1: 6, 12(b), 31 (remember $r = (x^2 + y^2 + z^2)^{1/2}$, simplifying hint: just calculate $\frac{\partial^2 V}{\partial x^2}$ and figure out $\frac{\partial^2 V}{\partial y^2}$ and $\frac{\partial^2 V}{\partial z^2}$ from symmetry)