Math2210 Quiz 8 (Sections 12.8-12.9)   Summer, 2012   Dylan Zwick

Name _____ Date _____

<u>Instructions</u>: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated.

　1. *(20 Points)* Express the number 42 as the sum of three positive numbers such that the product of these three numbers is a maximum.

Answer : _____

2. *(20 Points)* Find the maximum volume of a closed rectangular box with faces parallel to the coordinate planes inscribed in the ellipsoid

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1 \quad .$$

Answer: _____