Subject: Session 41

Year. Month. Date. ( )

1. $g = 6xz + 4yz + xy = 72$

$f = xyz$

$\nabla f = \langle yz, xz, xy \rangle$

$\nabla g = \langle 6z+y, 4z+x, 6x+4y \rangle$

$$\left.\begin{aligned} yz &= \lambda(6z+y) \\ xz &= \lambda(4z+x) \\ xy &= \lambda(6x+4y) \\ 6xz + 4yz + xy &= 72 \end{aligned}\right\} y = 6z,\ x = 4z,\ 72z^2 = 72 \Rightarrow z = 1,\ x = 4,\ y = 6$$