Due Date: 16 February 2012, Thursday   NAME:..

Ali Sinan Sertöz   STUDENT NO:..

Math 431 Algebraic Geometry – Homework

previous	5	6	TOTAL
40	10	10	60

Please do not write anything inside the above boxes!

Q-5) Find the singular points and the multiplicities and the nature (i.e. ordinary or not) of the singular points of the following projective curves.

   (i) $y^2 z = x(x - z)(x - \lambda z)$, $\lambda \in \mathbb{C}$.

   (ii) $x^n + y^n + z^n = 0$, where $n > 0$ is an integer.

Answer:

Q-6) For each $\lambda \in \mathbb{C}$, find the singular points and the multiplicities and the nature (i.e. ordinary or not) of the singular points of the following projective curve.

$$x^3 + y^3 + z^3 + 3\lambda xyz = 0.$$

Answer: