



Test in/ Examen de : Correction standards

Name/Le nom :

Class/ La Classe:

Date / La date:

2<sup>nd</sup> Trial

March 2013.

Time / La durée : Mathematics

§ 1<sup>st</sup> - exercise:

$$1) \frac{4^4 - 2^3}{2^3} = 2^{2n+1} - 1$$

$$\frac{2^8 - 2^3}{2^3} = 2^{2n+1} - 1$$

$$\frac{2^8}{2^3} - \frac{2^3}{2^3} = 2^{2n+1} - 1$$

$$\text{So, } 2^5 - 1 = 2^{2n+1} - 1$$

$$\text{then, } 2^5 = 2^{2n+1}$$

$$\text{hence, } 2n+1 = 5$$

$$\text{Thus, } \boxed{n=2}$$

2) 1<sup>st</sup> way.

Triangle ABC is isosceles at B (given.)

then, (d) bisector of  $\hat{ABC}$  is a median and height relative to [AC] (bisector issued from main vertex of an isosceles triangle.)

but, pts A & C have same abscissa.

So, (AC) is parallel to y-axis

Now, x-axis and y-axis are perp (orthonormal axes)

So, (d) is parallel to x-axis (st. line perp to one of 2 perp. st. lines is parallel to the other)

hence (d):  $y = cst$

but (d) passes through B

Thus (d):  $y = 3$

