Thermal Decomposition of $NaClO_3$ Name: _____
Lab calculations rough draft
Chemistry Date: _____ Hour: _____

Lab Answer Calculations

mass of $NaClO_3$ to start = _____ g (#1)

mass of test tube empty = _____ g (#2)

mass of $NaClO_3$ + test tube = _____ g (mass before heating, #3)

mass of NaCl + test tube = _____ g (mass after heating, #4)

mass of oxygen gas made = (#3) - (#4) _____ g (mass of O_2 lost, #5)
[should be positive!]

Percent of oxygen in $NaClO_3$ =

_____ g (#5)

÷

_____ g (#1)

x 100

= _____ (#6) [it's a percent!]

This is your answer to the goal!

Instructions:
On line #3, add up the mass of your $NaClO_3$ (line #1) and the mass fo your empty test tube (#2) to calculate your mass before the reaction.

Write the mass of your test tube and what was left after the reaction on line #4.

Subtract line #4 from line #3 to get the mass of oxygen gas produced (#5).

Divide the mass of oxygen (line #5) by your starting mass of $NaClO_3$ (line #1) and multiply by 100 to get your percent (#6).

Precision Calculations

Collect four groups' percents (their #6s), including yours:

Names	| Percent	- Average	| = Ab. Dev.
_____	_____	- _____	= _____
_____	_____	- _____	= _____
_____	_____	- _____	= _____
_____	_____	- _____	= _____
	==========		==========
	_____ (#7)		(#10) _____
	÷ 4		÷ 4
	_____ (#8)		(#11) _____

(#7) The four groups' percents (their #6s) and yours are added up
(#8) Divide #7 by 4 (the number of groups) to determine the average experimental value/percent for the groups
(#9) Subtract the average percent (#8) from all the experimental values. **If the answer is negative, just drop the minus sign (take the absolute value)**. These are each group's absolute deviations (how far off the average they were).
NOTE: Don't forget the rules of subtraction with significant figures!
(#10) Add up the absolute deviations.
Divide by 4, the number of groups, again.
(#11) This is the groups' average absolute deviation, otherwise known as its uncertainty (or range of repeatability).

Precision (Range of answers if lab were repeated) = (#8) _____ ± (#11) _____

Your average value (#8) and uncertainty (#11) should have the same number of digits after the decimal.

Accuracy Calculations

The correct "literature" answer for this lab is 45.09%.

Calculate the percent error of just your answer (using your #6 from the front):

% error =