Name ANSWER KEY School Team _____

Event 2: Problem Solving (with calculators) 7th/8th grade Math Meet '08

There are many different scales with which we measure temperature. Here are formulas to convert from Celsius to other temperature scales:

Celsius to Fahrenheit: $F = (9/5)C + 32$

Celsius to Kelvin: $K = C + 273.15$

Celsius to Rømer: $Rø = (21/40)C + 7.5$

Celsius to Delisle: $De = (3/2)(100 - C)$

For example, water freezes at the following temperatures for each scale:

Celsius	Fahrenheit	Kelvin	Rømer	Delisle
0° C	32° F	273.15° K	7.5° Rø	150° De

Use these conversion formulas to answer the following questions.

Part 1: Gosh it's hot/cold! (2 pts. each)

For each of the following questions, fill in the missing temperatures on the chart.

Lowest recorded naturally occurring temperature
(Vostok, Antartica, July 21, 1983):

Celsius	Fahrenheit	Kelvin	Rømer	Delisle
-89° C	-128.2° F	184° K	-39.225° Rø	283.5° De

Highest recorded naturally occurring temperature
(Al 'Aziziyah, Libya, September 13, 1922):

Celsius	Fahrenheit	Kelvin	Rømer	Delisle
58° C	136.4° F	331° K	37.95° Rø	63° De

Again, here are the formulas to convert from Celsius to other temperature scales:

Celsius to Fahrenheit:	$F = (9/5)C + 32$
Celsius to Kelvin:	$K = C + 273.15$
Celsius to Rømer:	$Rø = (21/40)C + 7.5$
Celsius to Delisle:	$De = (3/2)(100 - C)$

Part 2: Which is the hottest? (3 pts. each)

For each of the following questions, circle the temperature that is the hottest.

1)	100° F	**100° Rø**	100° De
2)	500° K	**500° F**	500° De
3)	-250° F	-250° Rø	**-250° De**