General Chemistry I – CHM1045

(Chapter 1) Converting Between Temperature Scales

Conversion Formulas	**Problem Solving Guide**
$^oC = (^oF - 32)/1.8$ $K = ^oC + 273.15$	Step 1: Identify what is given with the units. Step 2: Identify what the problem wants you to find. Step 3: Plug information into appropriate formula. Step 4: Rearrange formula to find the appropriate temperature if necessary.

For the follow scenarios, please convert to the proper temperature scale.

Convert the following to Fahrenheit

1) 10^oC = _____

2) 30^oC = _____

3) 40^oC = _____

4) 37^oC = _____

5) 0^oC = _____

Convert the following to Kelvin

11) 212^oC = _____

12) 0^oC = _____

13) -50^oC = _____

14) 90^oC = _____

15) -20^oC = _____

Convert the following to Celsius

6) 32^oF = _____

7) 45^oF = _____

8) 70^oF = _____

9) 80^oF = _____

10) 90^oF = _____

Convert the following to Celsius

16) 100^oK = _____

17) 200^oK = _____

18) 273^oK = _____

19) 350^oK = _____

20) 607^oK = _____

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Convert the following to Celsius

To solve input your given temperatures into the formula as is.

Step 1) $^oC = (^oF - 32)/1.8$

1) 32^o F = 0

2) 45^o F = 7.2

3) 70^o F = 21.1

4) 80^o F = 26.7

5) 90^o F = 32.2

Convert the following to Kelvin

To solve input your given temperatures into the formula as is.

Step 1) K = ^{o} C + 273.15

11) 212^o C = 485.15

12) 0^o C = 273.15

13) -50^o C = 223.15

14) 90^o C = 282.15

15) -20^o C = 253.15

Convert the following to Fahrenheit

To solve for ^{o}F, rearrange the initial formula to solve for ^{o}F. Input your given temperatures into the formula.

Step 1) ^{o}C = (^{o}F – 32)/1.8

Step 2) ^{o}F = (^{o}C*1.8) + 32

6) 10^o C = 50

7) 30^o C = 86

8) 40^o C = 104

9) 37^o C = 98.6

10) 0^o C = 32

Convert the following to Celsius

To solve for ^{o}C, rearrange the initial formula to solve for ^{o}C. Input your given temperatures into the formula.

Step 1) K = ^{o} C + 273.15

Step 2) ^{o}C = K - 273.15

16) 100^o K = - 175.15

17) 200^o K = - 73.15

18) 273^o K = - 0.15

19) 350^o K = 76.85

20) 607^o K = 333.85