

Temperature Conversions

Name: KEY-Piepenbrink
Date: _____ Period: _____

Equations:

Celsius (C) to Fahrenheit (F)
 $F = (C \times 1.8) + 32$

Fahrenheit to Celsius
 $C = (F - 32) \div 1.8$

Celsius to Kelvin (K)
 $K = C + 273.15$

Kelvin to Celsius
 $C = K - 273.15$

Kelvin is never negative!

Freezing Temp. ^(of H₂O) water \rightarrow Boiling Point ^(of H₂O) water

1. Celsius	<u>0°C</u>	<u>100°C</u>
2. Fahrenheit	<u>32°F</u>	<u>212°F</u>
3. Kelvin	<u>273.15 K</u>	<u>373.15 K</u>

Freezing Temp Sample Calculations
Celsius to Fahrenheit

$$F = (C \times 1.8) + 32$$

$$F = (0 \times 1.8) + 32 = 32 F$$

Celsius to Kelvin

$$K =$$

Use the space to show your work:

4. ^{Celsius to Fahrenheit} 25°C = 77 °F
 ~~$C = (F - 32) \div 1.8$~~
 $F = (C \times 1.8) + 32$
 $= (25 \times 1.8) + 32 = (45) + 32 = 77$
5. 200°F = 366.48 K
 2 steps! Convert F to C, then C to K.
 $C = (F - 32) \div 1.8 = 93.33$
 $K = C + 273.15 = 93.33 + 273.15 = 366.48 K$
6. -40°C = -40 °F
 $F = (C \times 1.8) + 32$
 $= (-40 \times 1.8) + 32 = -72 + 32$
7. 25°F = -3.89 °C
 $C = (F - 32) \div 1.8$
 $= (25 - 32) \div 1.8 = -7 \div 1.8$