

1. Convert a temperature of  $30^{\circ}$  F to both Celsius and Kelvin
2. Convert a temperature of  $80^{\circ}$  C to both Fahrenheit and Kelvin
3. Convert a temperature of 50 K to both Fahrenheit and Celsius
4. A bowl of water is recorded as having temperature T. If the average kinetic energy of the individual water molecules is doubled, what would be the new temperature of the water?
  - a.  $4T$
  - b.  $2T$
  - c. Still T
  - d.  $\frac{1}{2} T$
  - e.  $\frac{1}{4} T$
5. A bowl of water is recorded as having temperature T. If the average velocity of the individual water molecules is doubled, what would be the new temperature of the water?
  - a.  $4T$
  - b.  $2T$
  - c. Still T
  - d.  $\frac{1}{2} T$
  - e.  $\frac{1}{4} T$
6. A glass of water sits at room temperature ( $20^{\circ}$  C). What is the average kinetic energy of each water molecule in this glass?