1. (6 points) The element cobalt melts at 1768 K and boils at 3200 K. Cobalt reacts with chlorine to form cobalt chloride which can be used as an invisible ink. It reacts with oxygen to form cobalt oxides and also with acids to make highly colored compounds. Its density is 8.9 g/cm$^3$.

Classify each of the properties mentioned above about cobalt as either a physical property or a chemical property by writing it in the appropriate box below.

<table>
<thead>
<tr>
<th>Physical properties</th>
<th>Chemical properties:</th>
</tr>
</thead>
</table>

2. (5 points) You will eventually become experts at writing formulas and naming compounds. However, we have briefly touched on the idea that we represent the atoms in a molecule of a substance by writing a formula, such as H$_2$O for water. Identify each of the following as either a compound or an element by writing a C (for compound) or an E (for element) on the line after each one.

CH$_4$ _____ Br$_2$ _____ S$_8$ _____ CO$_2$ _____ O$_3$ _____

3. (6 points) Consider the bark of a tree trunk. Mark all following that would apply in classifying the bark as some form of matter.

_____ pure substance  _____ mixture
_____ homogeneous mixture  _____ heterogeneous mixture
_____ element  _____ compound