Chemical bonding

Name _____________________________ Class ___________________ Date ____________

1. How many atoms of oxygen (O) are in the chemical formula below?
   - A 4
   - B 5
   - C 7
   - D 12
   Al₂(SO₄)₃

2. The diagram shown below is a structural formula for the gas propane. What would be the correct chemical formula for propane?
   - A C₃H₈
   - B CH₄
   - C 8H₃C
   - D CH₃

3. Carbon (C) and hydrogen (H) create covalent bonds to share electrons between them. What is the total number of electrons being shared between carbon and hydrogen in the molecule of propane shown below?
   - A 8
   - B 11
   - C 16
   - D 32

4. The reason why the bonds between carbon (C) and hydrogen (H) are covalent is ________.
   - A C and H do not have electrons to give away
   - B C and H are both nonmetals
   - C C and H are both metalloids
   - D C and H can bond only by sharing electrons

5. The diagram below represents the structural formula for several water molecules. How many molecules are represented?
   - A 3
   - B 5
   - C 10
   - D 15

6. Explain the arrangement of the molecules in the diagram of water below.
   - A it is a lucky arrangement
   - B water molecules are sticky
   - C water molecules have polarity
   - D water molecules are magnetic

7. Water molecules have some polarity in their structure. Using the diagram below, notice how the ends of H atoms (positive) and O atoms (negative) meet. This property is the reason that ________.
   - A water forms droplets easily
   - B water boils easily
   - C ice melts easily
   - D water has color

8. Since H atoms are slightly positive and the O atoms are slightly negative, molecules of water have polarity. This makes water a good ________.
   - A solute
   - B refrigerant
   - C solvent
   - D magnet

9. The chemical formula for the oxygen that we breathe is ________.
   - A O
   - B O₂
   - C O₂
   - D 20

10. How many molecules of oxygen are represented in the chemical formula below?
    - A 2
    - B 4
    - C 6
    - D 18

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### Chemical Bonding

<table>
<thead>
<tr>
<th>Question</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
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