

### Polar vs. Nonpolar Bonds


What is the definition of electronegativity?

Remember:

- Difference in Electronegativity  $> 1.7$ , the bond is \_\_\_\_\_ and electrons are \_\_\_\_\_.
- Difference in Electronegativity  $< 1.7$  but greater than  $0.41$ , the bond is \_\_\_\_\_ and electrons are \_\_\_\_\_.
- Difference in Electronegativity  $< 0.40$ , the bond is \_\_\_\_\_ and electrons are \_\_\_\_\_.

Electronegativity Table is on pg: \_\_\_\_\_ in my book.

Identify the bonds formed between the following elements as ionic, polar covalent or nonpolar covalent.

|     | Element #1 | Element #2 | Electronegativity difference | Ionic, polar covalent or nonpolar covalent | Direction of pole?<br> |
|-----|------------|------------|------------------------------|--|---|
| 1.  | Na         | Cl         |                              |  |   |
| 2.  | Cl         | H          |                              |  |   |
| 3.  | Br         | Br         |                              |  |   |
| 4.  | Ca         | O          |                              |  |   |
| 5.  | H          | N          |                              |  |   |
| 6.  | C          | Cl         |                              |  |   |
| 7.  | O          | F          |                              |  |   |
| 8.  | P          | Cl         |                              |  |   |
| 9.  | Cu         | O          |                              |  |   |
| 10. | O          | S          |                              |  |   |
| 11. | Al         | Br         |                              |  |   |
| 12. | I          | H          |                              |  |   |
| 13. | Sr         | F          |                              |  |   |
| 14. | N          | N          |                              |  |   |
| 15. | C          | O          |                              |  |   |

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| 4.  | Ca         | O          |                              |  |   |
| 5.  | H          | N          |                              |  |   |
| 6.  | C          | Cl         |                              |  |   |
| 7.  | O          | F          |                              |  |   |
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| 15. | C          | O          |                              |  |   |