# Bond Polarity and Partial Charges Worksheet

Scoring guide · one credit per question · review written work against each rubric

### Bond Polarity and Partial Charges

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#### Question 1

Choice (1)

Both atoms in H–H have the same electronegativity.

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#### Question 2

H is δ+ and F is δ−. Fluorine draws the shared pair closer, so more electron density is near F.

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#### Question 3

Choice (3)

Partial negative charge represents an uneven share of the bond’s electron density.

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#### Question 4

The equal bond dipoles point in opposite directions along the same line, so they cancel.

### A Set of Bond Labels

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#### Question 5

Choice (4)

F has the highest electronegativity in the set. The H–F difference is 3.98 − 2.20 = 1.78.

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#### Question 6

The difference is 3.44 − 2.20 = 1.24. Oxygen is δ− because it attracts the shared electrons more strongly.

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#### Question 7

Choice (1)

N is closest to H in electronegativity. The difference is 3.04 − 2.20 = 0.84.

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#### Question 8

Cl should be δ− and H should be δ+. Chlorine has electronegativity 3.16, greater than hydrogen’s 2.20, so chlorine draws the shared electrons closer.