

### Exercise 3.12 – Electronic configuration, valency and formula

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**Q312-01** The most likely molecule to be formed by the reaction of boron and chlorine is

- A. BCl
  - B. BCl<sub>3</sub>
  - C. BCl<sub>4</sub>
  - D. BCl<sub>6</sub>
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**Q312-02** What is the formula of an ionic compound formed by element X (group 2) and element Y (group 6)?

- A. X<sub>3</sub>Y
  - B. X<sub>2</sub>Y
  - C. XY<sub>2</sub>
  - D. XY
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**Q312-03** Atom T has 3 valence electrons and atom S has 6 valence electrons. The formula expected for an ionic compound of T and S is

- A. T<sub>2</sub>S<sub>3</sub>
  - B. T<sub>3</sub>S<sub>2</sub>
  - C. TS<sub>3</sub>
  - D. T<sub>2</sub>S
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**Q312-04** What is the formula of the compound formed by calcium and nitrogen?

- A. CaN
  - B. Ca<sub>2</sub>N
  - C. Ca<sub>2</sub>N<sub>3</sub>
  - D. Ca<sub>3</sub>N<sub>2</sub>
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**Q312-05** The formula that one would expect for the fluoride of gallium, Ga, is

- A. GaF
  - B. GaF<sub>2</sub>
  - C. GaF<sub>3</sub>
  - D. Ga<sub>2</sub>F<sub>3</sub>
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**Q312-06** Based on its position in the periodic table, which of the following compounds would germanium be expected to form with hydrogen?

- A. GeH<sub>4</sub>
  - B. GeH<sub>3</sub>
  - C. GeH<sub>2</sub>
  - D. GeH
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**Q312-07** Based on its position in the periodic table, which of the following compounds would tellurium be expected to form with fluorine?

- A. TeF<sub>4</sub>
  - B. TeF<sub>3</sub>
  - C. TeF<sub>2</sub>
  - D. TeF
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**Q312-08** What is the formula of the compound formed by calcium and silicon?

- A.  $\text{CaSi}_4$
  - B.  $\text{CaSi}_3$
  - C.  $\text{Ca}_2\text{Si}$
  - D.  $\text{Ca}_2\text{Si}_2$
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**Q312-09** Based on its position in the periodic table, which of the following compounds would arsenic be expected to form with hydrogen?

- A.  $\text{AsH}_4$
  - B.  $\text{AsH}_3$
  - C.  $\text{AsH}_2$
  - D.  $\text{AsH}$
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**Q312-10** Based on their positions in the periodic table, which of the following compounds would polonium be expected to form with aluminium?

- A.  $\text{Al}_3\text{Po}_4$
  - B.  $\text{Al}_2\text{Po}_3$
  - C.  $\text{Al}_3\text{Po}_2$
  - D.  $\text{Al}_3\text{Po}$
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