# **Algebra in chemistry**

***Education in Chemistry*  
April 2020**  
[rsc.li/2VvRtaZ](https://rsc.li/2VvRtaZ)

**Complete the following questions, showing your working at each step.**

**Q1**

(i) Make *y* the subject; (ii) make *z* the subject.

**Q2**

(i) Make *b* the subject; (ii) make *c* the subject.

**Q3**

(i) Make *Gram Formula Mass* the subject; (ii) make *Mass* the subject.

**Q4**

(i) Make *Volume* the subject; (ii) make *Moles* the subject.

**Q5**

(i) Make the subject; (ii) make the subject; (iii) make the subject.

**Q6**

For the next step, perform an operation to obtain a single ‘*a’* term from the ‘*4a*’ term.

**Q7**

For the next step, perform an operation to obtain a single ‘2*y*’ from the ‘4*y*’ term.

**Q8**

For the next step, perform an operation to obtain a ‘ term from the term.

**Q9** The combined gas law is given by,

Make each of the following the subject: (i) ; (ii) ; (iii) ; (iv) ; (v) ; (vi) ; (vii) ; (viii) ; (ix) ; (x) ; (xi) ; (xii) ; (xiii) ; (xiv) ; (xv).

How many other permutations can you find?

**Q10** For the reaction H2 + I2 ⇌ 2HI, the equilibrium expression is:

(i) Make the subject; (ii) make the subject; (iii) make the subject.