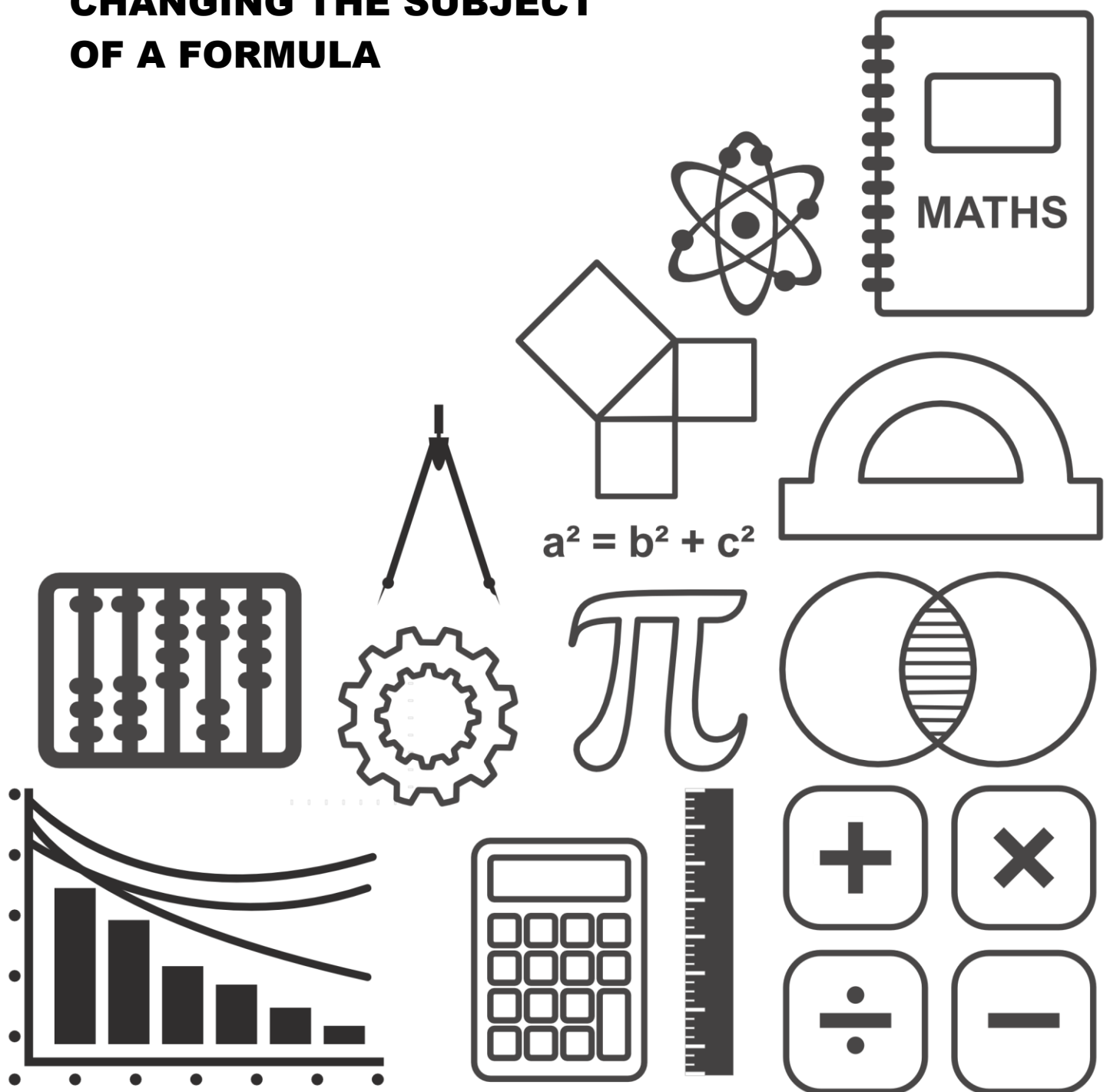


GCSE TOPIC BOOKLET CHANGING THE SUBJECT OF A FORMULA



1. a) Make p the subject of the formula

$$4(t + 3p) = 6 - 3t.$$

[3]

- b) Make w the subject of the following formula.

$$4(w + 5) = 3(g + 2)$$

[3]

- c) Make t the subject of the following formula.

$$s(t - r) = 2r - 3$$

[3]

- d) Make r the subject of the formula

$$3t + 7 = 5(t - 2r).$$

[3]

2.

Given that

$$\frac{w}{4} - 7 = x,$$

find w in terms of x .

[2]

3.

Make x the subject of the following formula.

[4]

$$a(x - b) = x(c - d)$$

4.

(a) Make g the subject of the following formula.

[2]

$$tg^2 = m$$

(b) Make q the subject of the following formula.

[3]

$$hq - c = yq + f$$

5.

Make p the subject of the following formula.

[3]

$$t + 6p = 5 - pq$$

6.

Make g the subject of the following formula.
You must simplify your answer.

[3]

$$\sqrt{3g + f} = h^2$$

[3]

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8.

[3]

[illegible]

9.

Rearrange the following formula to make c the subject.

$$4c - d = 2a + bc$$

[3]

10.

Rearrange the following formulae to make y the subject.

(a) $y^2 - t = g$

[2]

(b) $\frac{3y+w}{2y+3} = 5$

[4]

11.

Rearrange the following formulae to make w the subject.

(a) $t + 5w = h$

[2]

(b) $aw + 3 = 4(bw + 5)$

[4]

12.

(a) Rearrange the following formula to make k the subject.

[2]

$$3k^2 = m$$

(b) Rearrange the following formula to make g the subject.

[2]

$$eg + fg = h$$

13.

Rearrange to make b the subject of the following formula.

[3]

$$ab = bc + e$$

[illegible]

14.

(a)

Rearrange to make m the subject of the following formula.

[3]

$$w = \frac{3m^2}{a}$$

Figure 1 shows a 2D hexagonal lattice of atoms. A central atom is highlighted with a larger, thicker border. A dashed line connects this central atom to one of its nearest neighbors. The lattice is arranged in a regular hexagonal pattern.

(b) Make x the subject of the formula $gx + t = fx + d$.

[3]

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15.

(a) Make m the subject of the formula $y = 6m + 7$.

[2]

(b) Factorise $6x^2 - 12x$.

[2]

16.

(a) Make q the subject of the following formula.

$$3q + h^2 = m$$

[2]

(b) Solve $\frac{3x}{2} = 15$.

[2]

(c) Make w the subject of the following formula.

[3]

$$\frac{w^2 + x^2}{4} = 1$$

17.

(a) Make e the subject of the following formula.

[2]

$$h = 5e - 4$$
