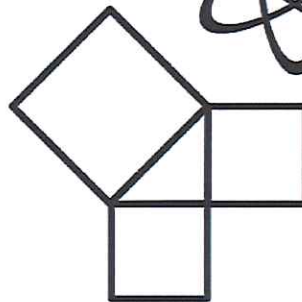
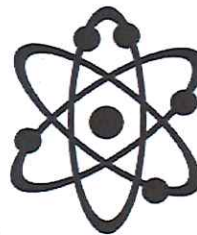
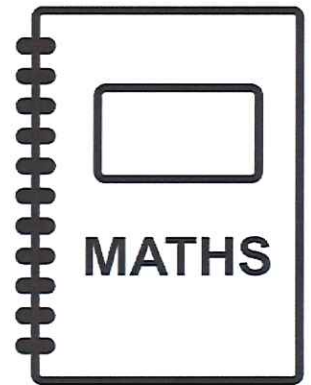


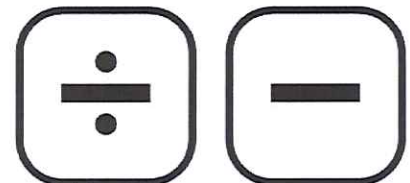
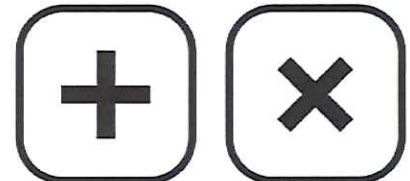
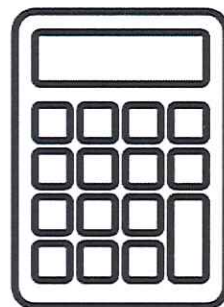
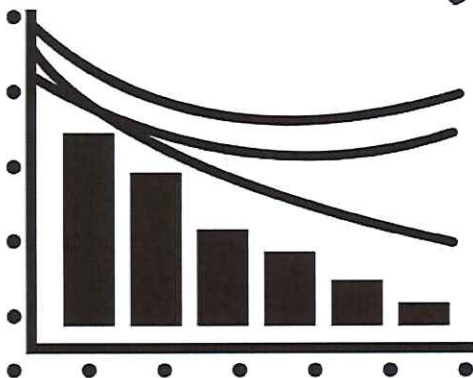
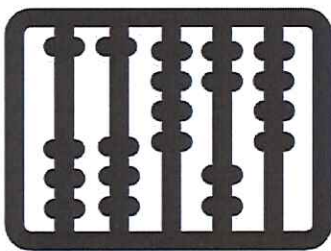
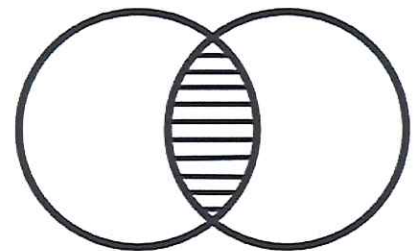
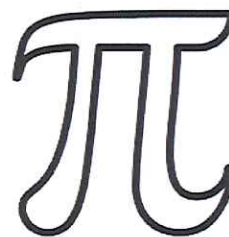
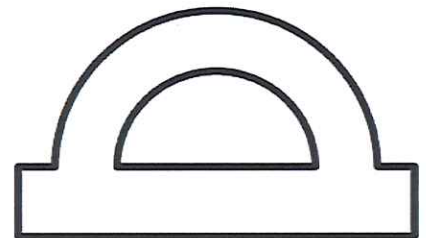
MATHSDIY

SOLUTIONS

GCSE TOPIC BOOKLET EXPANSION: THE BASICS



$$a^2 = b^2 + c^2$$



1. a) Expand $5(x - 2)$.

$$= \underline{5x - 10}$$

(1)

b) Expand $4(x - 3)$.

$$= \underline{4x - 12}$$

(1)

c) Expand $6(x - 5)$.

$$= \underline{6x - 30}$$

(1)

2. a) Expand and simplify $4(3x - 1) + 3(x - 5)$.

$$= 12x - 4 + 3x - 15$$

$$= \underline{15x - 19}$$

(2)

b) Expand the following expression, simplifying your answer as far as possible.

$$4(x - 2) + 3(2x + 5)$$

$$= 4x - 8 + 6x + 15$$

$$= \underline{10x + 7}$$

(2)

c) Expand $2x(x^2 + 3)$.

$$= \underline{2x^3 + 6x}$$

(2)

3. a) Expand and simplify: $4(2y - 3) - 3(y + 5)$

$$= 8y - 12 - 3y - 5$$

$$= \underline{\underline{5y - 17}}$$

(2)

b) Expand $x^3(3x - 5)$.

$$= \underline{\underline{3x^4 - 5x^3}}$$

(2)

4. a) Expand $5(x + 8)$.

$$= \underline{\underline{5x + 40}}$$

(1)

b) Expand $x(x^2 + 7)$.

$$= \underline{\underline{x^3 + 7x}}$$

(2)

5. a) Expand and simplify: $4(x + 5) - 3(2x - 4)$

$$= 4x + 20 - 6x + 12$$

$$= \underline{\underline{-2x + 32}}$$

(2)

b) Expand $5y(2y^2 - 3)$.

$$= \underline{\underline{10y^3 - 15y}}$$

(2)

6. a) Expand and simplify $4(2x + 3) - 3(x + 2)$.

$$= 8x + 12 - 3x - 6$$

$$= \underline{\underline{5x + 6}}$$

(2)

b) Expand the following expression, simplifying your answer as far as possible.

$$3(4a - 2c) - 2(2a + 4c)$$

$$= 12a - 6c - 4a - 8c$$

$$= \underline{\underline{8a - 14c}}$$

(2)

7. a) Expand and simplify $3(2a - 4) - 3(a - b)$.

$$= 6a - 12 - 3a + 3b$$

$$= \underline{\underline{3a + 3b - 12}}$$

(2)

b) Expand the following expression, simplifying your answer as far as possible.

$$3(4r - 2s) - 2(r + 4s)$$

$$= 12r - 6s - 2r - 8s$$

$$= \underline{\underline{10r - 14s}}$$

(2)