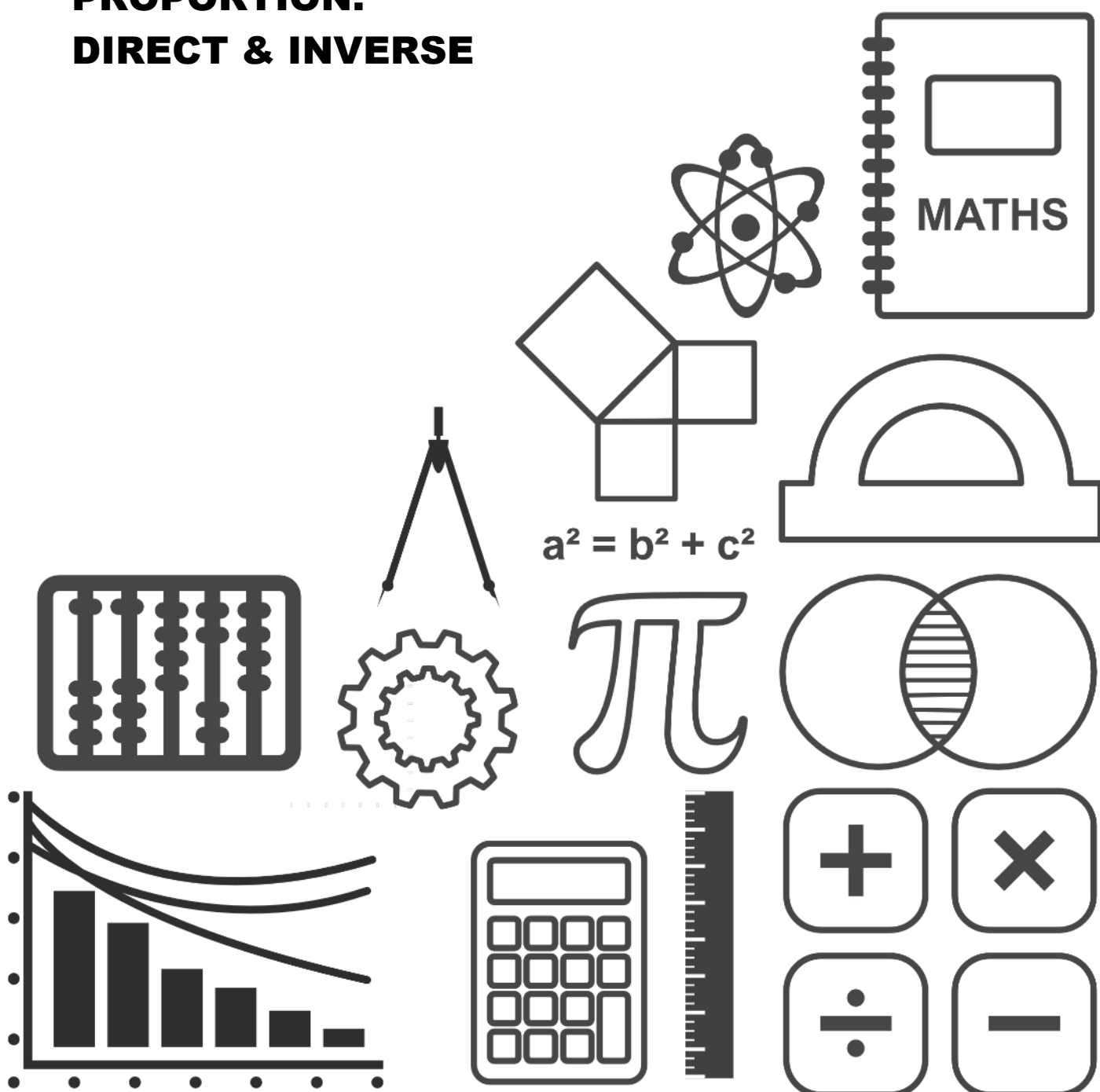


MATHSDIY

GCSE TOPIC BOOKLET PROPORTION: DIRECT & INVERSE



1. Given that g is proportional to h^2 , and that $g = 1$ when $h = 3$,

(a) find an expression for g in terms of h ,

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[3]

(b) find g when $h = 2$.

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[1]

2. Given that y is proportional to x^2 , and that $y = 4$ when $x = 0.5$,

(a) find an expression for y in terms of x ,

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.....

[3]

(b) use the expression you found in (a) to complete the following table.

x	0.5	3	
y	4		6400

.....

.....

[2]

3. Given that y is inversely proportional to x^2 , and that $y = 4$ when $x = 10$,

(a) find an expression for y in terms of x ,

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 [3]

(b) calculate

(i) the value of y when $x = 20$,

.....

 [1]

(ii) a value of x when $y = \frac{1}{100}$.

.....

 [2]

4. Given that y is proportional to x^2 , and that $y = 12$ when $x = 2$, calculate

a) the value of y when $x = 5$.

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b) the value of x when $y = 48$.

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(5)

5. Given that y is inversely proportional to x , and that $y = 4$ when $x = 6$,

(a) find an expression for y in terms of x ,

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[3]

(b) complete the following table for values of x and y .

x	$\frac{1}{2}$	6	
y		4	3

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[2]

6. Given that y is proportional to x^3 , and that $y = 4$ when $x = 1$, calculate

a) the value of y when $x = 2$.

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b) the value of x when $y = 256$.

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(5)

9. Given that y is inversely proportional to x , and that $y = 3$ when $x = 8$,

(a) find an expression for y in terms of x ,

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[3]

(b) complete the following table for values of x and y .

x	$\frac{1}{2}$		8
y		4	3

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[2]

10. Given that y is inversely proportional to x , and that $y = 3$ when $x = 2$,

(a) find an expression for y in terms of x ,

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[3]

(b) use the expression you found in (a) to complete the following table.

x	-1	2	
y		3	0.1

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[2]

11. Given that y is inversely proportional to x^2 , and that $y = 2$ when $x = 15$,

(a) find an expression for y in terms of x ,

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[3]

(b) calculate

(i) y when $x = 10$,

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[1]

(ii) x when $y = 50$.

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[2]