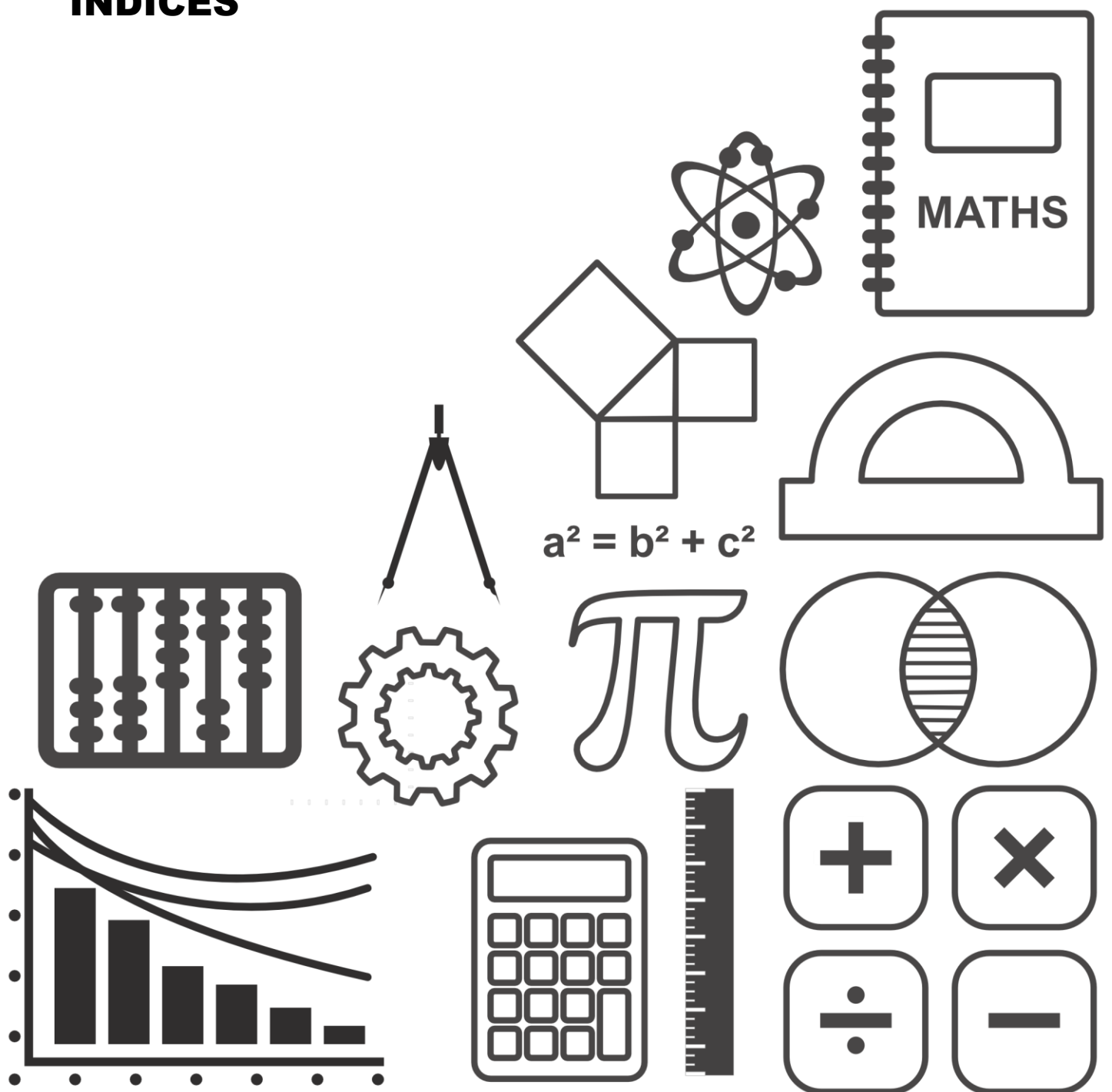


GCSE TOPIC BOOKLET INDICES



1.

Raul has been asked to look at some data.
He is asked to write the data in the form 2^n , where n is a whole number or a decimal.
Write the following numbers in the form 2^n .

(a) $\frac{1}{2^3}$

[1]

(b) $(2^{0.3})^{0.4}$

[1]

(c) $(\sqrt[4]{8})^{12}$

[2]

2.

Circle the correct answer for each of the following statements.

(a) $9^{-\frac{1}{2}}$ is equal to

-3

$-\frac{1}{3}$

$\frac{1}{4\frac{1}{2}}$

$-4\frac{1}{2}$

$\frac{1}{3}$

[1]

(b) $8^{\frac{2}{3}}$ is equal to

$5\frac{1}{3}$

4

6

$8\frac{2}{3}$

$\frac{16}{24}$

[1]

(a) Evaluate $8^{-\frac{2}{3}}$.

[2]

(b) Calculate the value of $2^3 + 5^2$.

[2]

(c) $3^3 - 2^4$

[2]

4.

(a) Evaluate $5^7 \div 5^4$.

[2]

(b) Evaluate

[2]

$$10000^{-\frac{1}{4}}$$

(c) Evaluate $\left(\frac{27}{8}\right)^{-\frac{1}{3}}$

[2]

[illegible]

(b) Evaluate

[1]

[2]

.....

[3]

[illegible]

[3]

6.

(a) Write down the value of $\sqrt{0.49}$. [1]

(b) Write down the exact value of $5 \cdot 8^2$. [1]

(c) Find the value of $\sqrt{25 \cdot 3} + 2 \cdot 3^2$. Write down your answer to 1 significant figure. [2]

(d) Find the value of $\sqrt{\frac{3}{4 \cdot 2^2 - 3}}$, giving your answer correct to two decimal places. [2]

Complete the following table for Dafydd to give the values correct to 2 significant figures. [3]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

8.

[1]

11

 [1]

9.

(a) Evaluate 26^0 .

[1]

(b) Express $8^{-\frac{2}{3}}$ as a fraction.

[2]

(c)

Simplify $\frac{(x+2)^{16}(y-1)^{20}}{(x+2)^5(y-1)^3}$.

[2]

10.

Find the exact value of each of the following.

(a) $5 \cdot 6^2$

[1]

(b) 4 to the power of 5

[1]

(c) the square root of 28.09

[1]

11.

(a) Evaluate $1000^{-\frac{1}{3}}$.

[2]

(b) Simplify $\frac{y^{16} \times y^2}{y^4}$.

[2]

(c) Evaluate $16^{-\frac{1}{2}}$.

[1]

(d) Find the value of $2^3 \times 5^2$.

[2]

(e) Work out the value of $7^2 - 2^3$.

[2]

(f) Evaluate 19^0 .

[1]

(g) Calculate the cube root of 125.

[1]

(h) Calculate the value of 1.4 cubed.

[1]