MATHSDIY

GCSE TOPIC BOOKLET

ESTIMATION

$a^2 = b^2 + c^2$
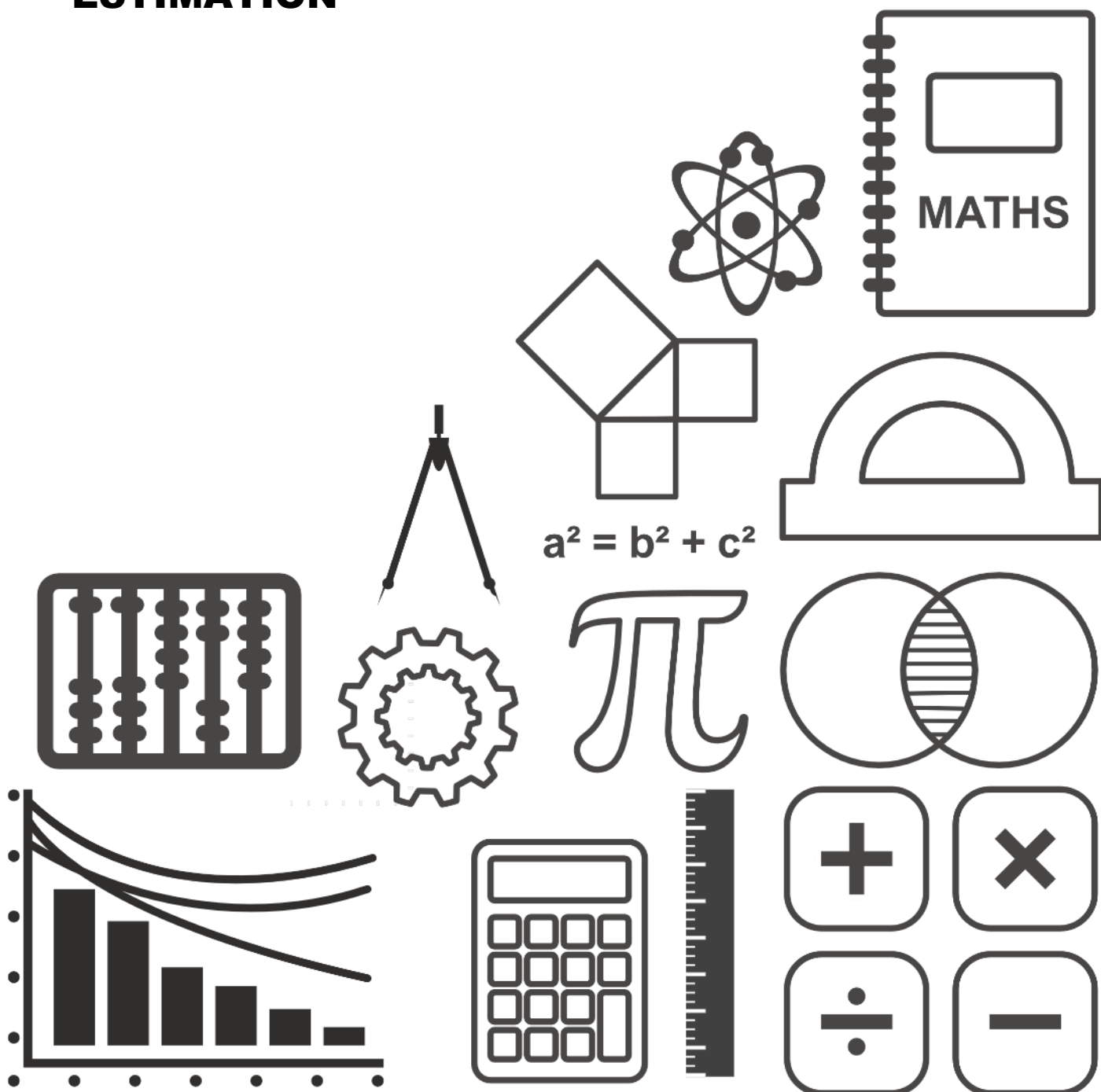
DO NOT USE A CALCULATOR WHEN ANSWERING THESE QUESTIONS

1.   Showing your working find an ESTIMATE for 198×12.

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(2)

2.   Clearly showing how you obtained your answer, ESTIMATE the value of:

$$\frac{48 \times 1577}{210}$$

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3.   Show clearly how you would obtain an ESTIMATE for the following calculation.

$$\frac{96 \times 319}{82}$$

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(2)

4.	ESTIMATE the value of:

$$\frac{58 \times 92}{487}$$

Show clearly how you obtain your answer.

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(2)

5.	ESTIMATE the value of:

$$\frac{(4.768)^3 \times 0.42}{18.6 \times 0.037}.$$

Show clearly how you obtain your answer.

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(3)

6.	ESTIMATE the value of:

$$\frac{597 \times \sqrt{35.7}}{9.2}$$

Show clearly how you obtain your answer.

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(3)

7. Show clearly how you would obtain an ESTIMATE for the following calculation.

$$\frac{594.3 \times 7.6}{38.7}$$

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8. a) Showing all your working, find an ESTIMATE for the value of 9.1×29.8.

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(2)

b) ESTIMATE the answer to 51×3.9.

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(2)

c) Showing all your working, find an ESTIMATE for the value of $4012 \div 49$.

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(2)

d)   Find an ESTIMATE for the value of 42.2×11.3. Show all of your working.

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(2)

9.   Show that $7.02^2 - 3.9^2$ is approximately 33.

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(2)

10.   Showing all your working, find an ESTIMATE for the value of 5.17×9.8.

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(2)

11.   ESTIMATE the value of:

$$\frac{28.17 \times 0.48}{\sqrt{94.8}}$$, giving your answer as a decimal.

Show clearly how you obtain your answer.

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12. Obtain an ESTIMATE for

$$\frac{0.21^2 \times 319.76}{38.7 \times 0.0186}$$

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(3)

13. Showing all your working, **estimate** the value of

$$\frac{2.09^3 \times \sqrt{98}}{0.196}$$

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14. Obtain an ESTIMATE of $\sqrt{24}$ to the nearest whole number

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