

Estimation

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **23**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** Round 68 and 31 to the nearest 10
Use your rounded numbers to estimate the value of 68×31

[2 marks]

Answer _____

- 2** Circle the best estimate of $\frac{49.6 \times 3.1}{0.52}$

[1 mark]

30

75

300

3000

- 3** Use approximations to estimate the value of $\sqrt{63.7} \times 4.9$

[2 marks]

Answer _____

- 4 Pens cost £2.95 each.
Jenny buys 19 pens.
Estimate the total cost.

[2 marks]

Answer £ _____

- 5 Sid works out $\frac{396}{19.8}$
He gets 200
Is his answer sensible? Tick a box.
Show how you decide.

[2 marks]

☐ Yes

☐ No

- 6 An approximation for the value of π is 3
Use this to estimate the area of a circle of radius 9.8 cm.

[2 marks]

Answer _____ cm²

- 7** (a) Work out an estimate for $\frac{612 \times 4.12}{0.198}$

[3 marks]

Answer _____

- (b) Is your answer to part (a) an underestimate or an overestimate?
Give a reason for your answer.

[1 mark]

- 8** Round each number to 1 significant figure to estimate

$$4.18^2 - 29.6 \div 5.23$$

[2 marks]

Answer _____

- 9** A bag contains 4.9 kg of rice.
Chen uses 98 g of rice each day.

Estimate how many days the bag of rice will last.
You must show your working.

[3 marks]

Answer _____

- 10** Kai uses his calculator to work out $\frac{812 - 395}{3.9 \times 5.2}$
The calculator display shows 2.056213018

Use approximations to show that Kai must have pressed a wrong key.
You must show your working.

[3 marks]