

GCSE MATHS • GRADE 3

MATHS



EXAM QUESTION PACK

ESTIMATION

SCORE

/92

PERCENTAGE

%

STEM UP

- 1 Work out an estimate for the value of
 $107 \div 5.1$

/ 1

- 2 Work out an estimate for the value of
 $(78.4 \times 62) \div 8.12$

/ 1

- 3 Work out an estimate for the value of
 $(31.3 + 59.9) \div 6.2$

/ 1

- 4 Work out an estimate for the value of
 $219 \div 19$

.....
 / 1

- 5 Work out an estimate for the value of
 $(3.5 \times 91) \div 54$

.....
 / 1

- 6 Work out an estimate for the value of
 $(2.41 + 41) \div 9.58$

.....
 / 1

7 Work out an estimate for the value of

$$\frac{74 \times 34}{2.4}$$

/ 1

8 Work out an estimate for the value of

$$(8.3 \times 4.6) \div 4.3$$

/ 1

9 Work out an estimate for the value of

$$(18.5 + 7.52) \div 3.5$$

/ 1

- 10** Work out an estimate for the value of

$$\frac{5.49 \times 622}{0.2}$$

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 / 1

- 11** Work out an estimate for the value of

$$19.9^2 \times 8.6$$

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 / 1

- 12** Work out an estimate for the value of

$$(45.5 + 94.6) \div 13$$

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 / 1

- 13** Work out an estimate for the value of

$$\frac{90.6 \times 3.6}{26}$$

.....
 / 1

- 14** Work out an estimate for the value of

$$10.2^2 \times 81.2$$

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 / 1

- 15** Work out an estimate for the value of

$$(88.1 \times 1.3) \div 0.25$$

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 / 1

- 16** Work out an estimate for the value of

$$\frac{49.7 + 8.7}{0.11}$$

/ 1

- 17** Work out an estimate for the value of

$$5.36^2 \times 49.3$$

/ 1

- 18** Work out an estimate for the value of

$$(58.4 \times 71.5) \div 0.957$$

/ 1

- 19** Work out an estimate for the value of

$$\frac{48 + 245}{0.39}$$

/ 1

- 20** Work out an estimate for the value of
 $3.1^2 \times 41$

/ 1

- 21** A circular table has a radius of 2.7 m.
By rounding each number to 1 significant figure, work out an estimate for the area of the table.
Use $\pi = 3$.

/ 2

- 22 Work out an estimate for the value of
 $(1.16 + \sqrt{104.2}) \div 1.01$

/ 2

- 23 Chloe's mobile phone costs 6.3p for every minute of calls.
Chloe makes calls for 77 minutes each day for 41 days.
Work out an estimate for the total cost of the calls. Give your answer in pounds (£).

/ 2

- 24 A circular lawn has a radius of 7.1 cm.
By rounding each number to 1 significant figure, work out an estimate for the area of the lawn.
Use $\pi = 3$.

/ 2

- 25 Ava uses a calculator to work out $(86 \times 95) \div 3.7$
Ava's answer is 220.
Gary's answer is 2,200.
One of the answers is correct.
Use approximations to find out which answer is correct.

/ 2

- 26 Richard's mobile phone costs 4.6p for every minute of calls.
Richard makes calls for 63 minutes each day for 88 days.
Work out an estimate for the total cost of the calls. Give your answer in pounds (£).

/ 2

- 27 A circular lawn has a radius of 9.6 cm.
By rounding each number to 1 significant figure, work out an estimate for the area of the lawn.
Use $\pi = 3$.

/ 2

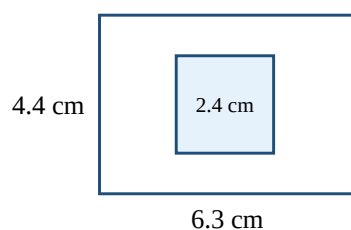
- 28** Zara uses a calculator to work out $(57.9 \times 68) \div 6.74$
Zara's answer is 5,800.
Hannah's answer is 580.
One of the answers is correct.
Use approximations to find out which answer is correct.

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- 29** Priya's mobile phone costs 2.3p for every minute of calls.
Priya makes calls for 45 minutes each day for 54 days.
Work out an estimate for the total cost of the calls. Give your answer in pounds (£).

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- 30** The diagram shows a rectangle with a square cut out of it. The square is shaded.
Work out an estimate for the area of the rectangle that is not shaded.
You must show your rounding of each number to 1 significant figure. Diagram NOT accurately drawn.



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 / 2

- 31** Amelia uses a calculator to work out $(55.8 \times 7.32) \div 59.2$
Amelia's answer is 0.69.
Hannah's answer is 6.9.
One of the answers is correct.
Use approximations to find out which answer is correct.

/ 2

- 32** Noah spends an average of £32.5 on food each week.
(a) Work out an estimate for the amount Noah spends on food in a year.
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer.

/ 2

- 33** Dermot uses a calculator to work out the value of
$$\frac{763.3}{15.1 + 4.8^2}$$

Dermot's answer is 2.
Amelia's answer is 20.
One of the answers is correct.
Use approximations to find out which answer is correct.

/ 2

- 34** Zara uses a calculator to work out $(650 \times 30.1) \div 66.3$
Zara's answer is 300.
Abbie's answer is 3,000.
One of the answers is correct.
Use approximations to find out which answer is correct.

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- 35** Zara drives an average of 33.5 miles per week.
(a) Work out an estimate for the number of miles Zara drives in a year.
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer.

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- 36** Isla uses a calculator to work out the value of
$$\frac{603.3}{17.1 + 3.5^2}$$

Isla's answer is 21.
Emma's answer is 2.1.
One of the answers is correct.
Use approximations to find out which answer is correct.

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- 37** Michael uses a calculator to work out $(621 \times 1.76) \div 27$
Michael's answer is 40.
Gary's answer is 400.
One of the answers is correct.
Use approximations to find out which answer is correct.

/ 2

- 38** A school buys one calculator for each of the 144 students in Year 11.
(a) Each calculator costs £2.33. Work out an estimate for the total cost.
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer.

/ 2

- 39** A circular lawn has a radius of 42 cm.
(a) Work out an estimate for the area of the lawn. Round every number, including π , to 1 significant figure.
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer.

/ 3

- 40 A printer prints one page every 96 seconds.
The machine works for 8 hours each day for 355 days.
Work out an estimate for the number of pages made in total.

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 / 3

- 41 A machine uses 4.7 pence of electricity for every minute it runs.
The machine runs for 48 minutes each day.
The machine runs for 45 days.
(a) Work out an estimate for how much the electricity costs. Give your answer in pounds (£).
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer.

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- 42 A circle has a radius of 13 metres.
(a) Work out an estimate for the area of the circle. Round every number, including π , to 1 significant figure.
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer.

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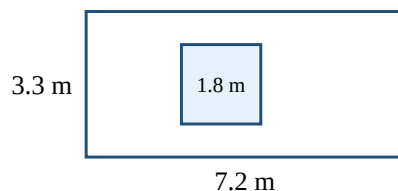
- 43 A machine makes one part every 55 seconds.
The machine works for 9 hours each day for 267 days.
Work out an estimate for the number of parts made in total.

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- 44 A machine uses 3.7 pence of electricity for every minute it runs.
The machine runs for 66 minutes each day.
The machine runs for 29 days.
(a) Work out an estimate for how much the electricity costs. Give your answer in pounds (£).
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer.

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 / 3

- 45 The diagram shows a rectangle with a square cut out of it. The square is shaded.
(a) Work out an estimate for the area of the shape that is not shaded. Round each number to 1 significant figure.
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer. Diagram NOT accurately drawn.



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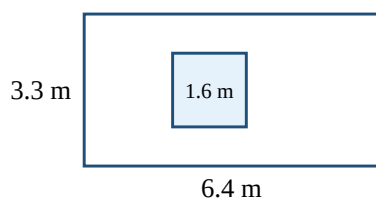
- 46 A bottling machine fills one bottle every 83 seconds.
The machine works for 7 hours each day for 227 days.
Work out an estimate for the number of bottles made in total.

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- 47 A baby was born every 64 seconds in the UK in 2018.
Work out an estimate for the total number of babies born in the UK in 2018.
You must show how you get your answer.

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- 48 The diagram shows a rectangle with a square cut out of it. The square is shaded.
(a) Work out an estimate for the area of the shape that is not shaded. Round each number to 1 significant figure.
(b) Is your answer to part (a) an underestimate or an overestimate? Give a reason for your answer. Diagram NOT accurately drawn.



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- 49** A car was made every 29 seconds at a factory throughout one year.
Work out an estimate for the total number of cars made at the factory in the year.
You must show how you get your answer.

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- 50** A new customer joined a mobile phone network every 41 seconds throughout one year.
Work out an estimate for the total number of customers who joined the network in the year.
You must show how you get your answer.

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 / 3
