Name: _____

GCSE (1 – 9)

Estimation

Instructions

• Use **black** ink or ball-point pen.
• Answer all Questions.
• Answer the Questions in the spaces provided
– *there may be more space than you need.*
• Diagrams are **NOT** accurately drawn, unless otherwise indicated.
• You must **show all your working out.**

Information

• The marks for each Question are shown in brackets
– *use this as a guide as to how much time to spend on each Question.*

Advice

• Read each Question carefully before you start to answer it.
• Keep an eye on the time.
• Try to answer every Question.
• Check your answers if you have time at the end

1 Work out an estimate for the value of $\dfrac{48.7 \times 61.2}{11.3}$

....

(Total for Question 1 is 3 marks)

2 Work out an estimate for the value of $\dfrac{41.2 \times 19.8}{0.49}$

....

(Total for Question 2 is 3 marks)

3 Work out an estimate for the value of $\dfrac{28.4 \times 21.05}{5.9}$

....

(Total for Question 3 is 3 marks)

4 Work out an estimate for the value of $\dfrac{7.4 + 23.05}{0.196}$

....

(Total for Question 4 is 3 marks)

5 Work out an estimate for the value of $\dfrac{91.25 \times 4.87}{2.31}$

....

(Total for Question 5 is 3 marks)

6 Work out an estimate for the value of $\dfrac{18.3 + 62.8}{0.13}$

....

(Total for Question 6 is 3 marks)

7 Work out an estimate for the value of $\dfrac{21.75 + \sqrt{98.1}}{0.192}$

....

(Total for Question 7 is 3 marks)

8 Work out an estimate for the value of $\dfrac{8.3 \times 18.7}{0.52}$

....

(Total for Question 8 is 3 marks)

9 Eddie and Ellen use a calculator to work out $\dfrac{431.1}{14.3 + 3.8^2}$

Eddie's answer is 1.5
Ellen's answer is 15

One of those answers is correct.

Use approximations to find out which answer is correct.

(Total for Question 9 is 3 marks)

10 Ciara drives an average of 43.6 miles per week

(a) Work out an estimate for the number of miles Ciara drives in a year.

..............................… miles

(2)

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

…..

…..

(1)

(Total for Question 10 is 3 marks)

11 Dennis gets paid £8.21 per hour he works.
Each week Dennis works 41 hours.

(a) Work out an estimate for the amount Dennis gets paid in a week.

£...............................

(2)

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

…..

…..

(1)

(Total for Question 11 is 3 marks)

12 Mr Sykes wants to buy a calculator for every student in year 11.
There are 104 students in year 11.
Each calculator costs £6.05

(a) Work out an estimate for the amount of money Mr Sykes will spend on calculators.

£...............................
(2)

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

…..

…..
(1)
(Total for Question 12 is 3 marks)

13 Phoebe's pays 2.8 pence per minute to use her phone.
On average Phoebe uses her phone for 77 minutes per day.

She pays her phone bill for 29 days.

(a) Work out an estimate for how much Phoebe pays.

£...............................
(3)

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

…..

…..
(1)
(Total for Question 13 is 4 marks)

14 A circle has a radius of 11 metres.

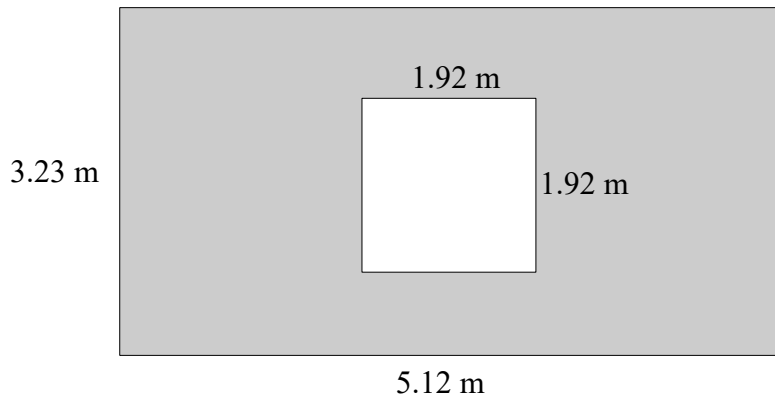(a) Work out an estimate for the area of the circle.

.................................m^2

(3)

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

…..

…..

(1)

(Total for Question 14 is 4 marks)

15 A shape is formed by cutting a square out of a rectangle.

1.92 m

3.23 m

1.92 m

5.12 m

(a) Work out an estimate for the area of the shape.

.................................m^2

(3)

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

…..

…..

(1)

(Total for Question 15 is 4 marks)

16 A baby was born every 43 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.

....
(Total for Question 16 is 4 marks)