N084 Approximation and estimation

Q1.

Work out an estimate for the value of $\frac{89.3 \times 0.51}{4.8}$

.....

(Total for Question is 2 marks)

Q2.

Work out an estimate for the value of $\frac{43.2 \times \sqrt{99.05}}{0.193}$

.....

(Total for question = 3 marks)

Q3.

Work out an estimate for $\frac{31 \times 9.87}{0.509}$

(Total for Question is 3 marks)

Q4.

Work out an estimate for $\sqrt{4.98 + 2.16 \times 7.35}$

.....

(Total for question = 3 marks)

Q5.

There are 892 litres of oil in Mr Aston's oil tank.
He uses 18.7 litres of oil each day.

Estimate the number of days it will take him to use all the oil in the tank.

.....

(Total for question = 2 marks)

Q6.

A unit of gas costs 4.2 pence.

On average Ria uses 50.1 units of gas a week.
She pays for the gas she uses in 13 weeks.

(a) Work out an estimate for the amount Ria pays.

.....

(3)

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

.....

.....

(1)

(Total for question is 4 marks)

Q7.

Jayne writes down the following

$$3.4 \times 5.3 = 180.2$$

Without doing the exact calculation, explain why Jayne's answer cannot be correct.

.....

.....

(Total for question is 1 mark)

Q8.

A ticket for a seat at a school play costs £2.95

There are 21 rows of seats.
There are 39 seats in each row.

The school will sell all the tickets.

Work out an estimate for the total money the school will get.

£ . . . . . .

(Total for Question is 3 marks)

Q9.

A number, *n*, is rounded to 2 decimal places.
The result is 4.76

Using inequalities, write down the error interval for *n*.

.....

(Total for question = 2 marks)

Q10.

The length, *L* cm, of a line is measured as 13 cm correct to the nearest centimetre.

Complete the following statement to show the range of possible values of *L*

..... ≤ *L* < .....

(Total for question is 2 marks)

Q11.

Jim rounds a number, x, to one decimal place.
The result is 7.2

Write down the error interval for x.

.....

(Total for question = 2 marks)

Q12.

(a) Work out $\frac{4.36 + 2.8^3}{6.8 - 5.42}$

Give your answer as a decimal.
Write down all the digits on your calculator display.

.....

(2)

(b) Give your answer to part (a) correct to 1 decimal place.

.....

(1)

(Total for question = 3 marks)

Q13.

Use your calculator to work out $\dfrac{\sqrt{70.25}}{4.2 - 2.37}$

(a) Write down all the figures on your calculator display.
You must give your answer as a decimal.

.....

(2)

(b) Write your answer to part (a) correct to 4 decimal places.

.....

(1)

(Total for question = 3 marks)

Q14.

Work out $\sqrt{\dfrac{2.5 \times \sin 43^\circ}{8.2^2 - 50.5}}$

Give your answer correct to 3 significant figures.

.....

(Total for question = 2 marks)