OCR GCSE Mathematics Calculator 2021 Foundation Paper 3 Revision Worksheet

Question 11

Here are some algebraic statements.

$v = u + at$ $a + 2b$ $3(x + 2) = 3x + 6$ $2y < x$ $2x = 5$

From the list above, write down an example of each of the following.

(a) An expression.

(b) An inequality.

(c) An equation.

Question 12

Rearrange this formula to make w the subject.

$P = 2w + 2h$

Question 13

Ellis has 28m of ribbon. They cut the ribbon into lengths of 60cm.

What is the least length of ribbon, in cm, that can be left over? **You must show your working**.

Question 14

This table shows the names and areas of five lakes.

Name of Lake	Area in km^2
Ladoga	1.81×10^4
Mweru	5.12×10^3
Tana	3.20×10^3
Topozero	9.86×10^2
Victoria	6.89×10^4

(a) Write the area of Lake Mweru as an ordinary number.

(b) Write the lakes in the order of their area, starting with the smallest.

(c) Calculate the difference between the areas of Lake Ladoga and Lake Tana. Give your answer in standard form, correct to **2** significant figures.

Question 15

Azmi, Beth and Callum share a flat.

(a) The monthly rent is £760. They share the rent in the ratio 2 : 3 : 3.

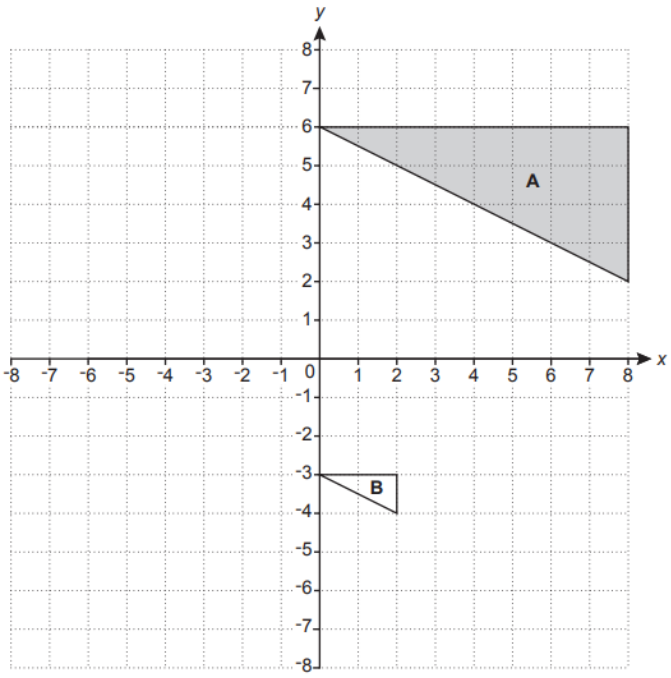
How much does Beth pay for rent each month?

(b) Azmi, Beth and Callum also share the fuel bill in the ratio 2 : 3 : 3.

Callum pays £36 for fuel each month. How much does Azmi pay for fuel each month?

Question 16

Triangle A and triangle B are drawn on the coordinate grid.



(a) Reflect triangle A in the line x = 0.

(b) Describe fully the single transformation that maps triangle A onto triangle B.

Question 17

Ling throws a six-sided dice 300 times. The table shows the frequencies of their results.

Number on dice	1	2	3	4	5	6
Frequency	42	27	57	60	39	75
Relative frequency	0.19					

(a) Complete the table to show the relative frequencies.

(b) Ling thinks that the dice may be biased.

(i) Explain why evidence from the table could support their opinion.

(ii) Explain why the dice may, in fact, not be biased.

Question 18

A carpenter measures the length, k metres, of a piece of wood. They write $3.35 \leq k < 3.45$

(a) Put rings around all possible values of k in the list below. 3.349 3.39 3.44 3.45 3.55

(b) The carpenter says $3.35 \leq k < 3.45$ means that the length of the piece of wood is 3.4 metres correct to the nearest centimetre.

(i) Explain how you know that she is incorrect.

(ii) Complete the interval for 3.4m, correct to the nearest centimetre. $3.395 \leq k <$ _____

Question 19

(a) Amit says: My normal typing speed is 40 words per minute. Therefore, I estimate that my normal typing speed is about 210 characters per minute. Each letter, space and piece of punctuation counts as a character. How many letters per word is Amit most likely to have used in making the estimate? Show how you decide.

(b) Amit starts some homework at their normal typing speed. Amit types 52 words in 1 minute 12 seconds. What may be true about the length of the words that Amit has just typed? Show how you decide.

Question 20

The diagram shows rectangle ABCD. DB = 13 cm and BC = 5 cm. Calculate the area of the rectangle. You must show your working.