Name	Class

MATHS TEACHER HUB

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Inequalities

(9 – 1) Topic booklet

Foundation

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

Instructions

•Use **black** ink or ball-point pen.
•**Fill in the boxes** at the top of this page with your name, centre number and candidate number.
•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.**
•If the question is a **1F** question you are not allowed to use a calculator.
•If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

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.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

3 Write down a number that is less than –5

.....

November 2023 – Paper 3F **(Total for Question 3 is 1 mark)**

10 Here are three symbols.

<	>	=

Write one of these symbols in each box to make four true statements.

14 ☐ 21

4 + 7 ☐ 103 − 92

2^2 ☐ 2 × 2

−3 ☐ −5

June 2019 – Paper 2F **(Total for Question 10 is 2 marks)**

14 The box below contains three mathematical symbols.

=	<	>

From the box, choose a symbol to make each of the following statements correct.

(i) $\frac{5}{8}$ ..... $\frac{2}{8}$

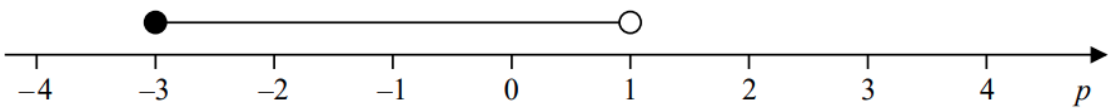
(1)

(ii) -2×-3 ..... $-3 + 9$

(1)

June 2022 – Paper 2F **(Total for Question 14 is 2 marks)**

19 Here is a number line.

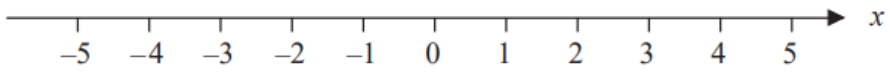


Write down the inequality shown on the number line.

.....

November 2019 – Paper 1F **(Total for Question 19 is 2 marks)**

19 (a) On the number line, show the inequality $x < 4$



(2)

$3 < y \leqslant 7$ where y is an integer.

(b) Write down all the possible values of y.

.....

(2)

(c) Solve $3x + 5 \geqslant x + 17$

.....

(3)

(Total for Question 19 is 7 marks)

19 $-3 < t \leqslant 2$
t is an integer.

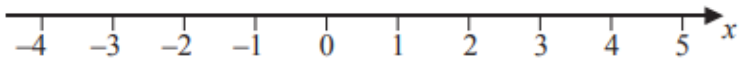
Write down all the possible values of t.

.....

(2)

June 2017 – Paper 1F **(Total for Question 19 is 2 marks)**

20 (a) Show the inequality $-2 \leqslant x < 3$ on the number line below.



(2)

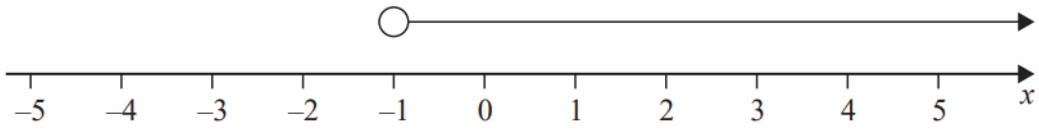
(b) Solve the inequality $4y + 7 < 16$

.....

(2)

Specimen 2 – Paper 3F **(Total for Question 20 is 4 marks)**

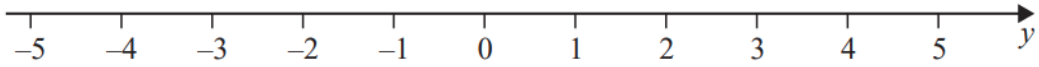
21 (a) Write down the inequality shown on this number line.



.....

(1)

(b) On the number line below, show the inequality $-3 \leqslant y < 4$

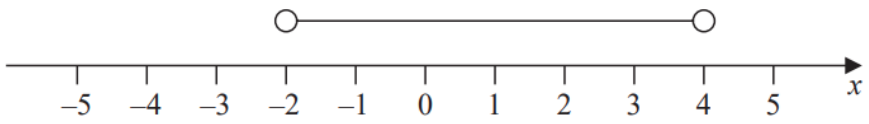


(2)

(Total for Question 21 is 3 marks)

23 Jenna is asked to show the inequality $-3 < x \leqslant 4$ on a number line.

Here is her answer.



(a) Write down two mistakes Jenna has made.

1 .....

.....

2 .....

.....

(2)

(b) Work out the greatest integer that satisfies the inequality

$$5y - 7 < 16$$

.....

(2)

(Total for Question 23 is 4 marks)

23 $-2 \leqslant n < 5$

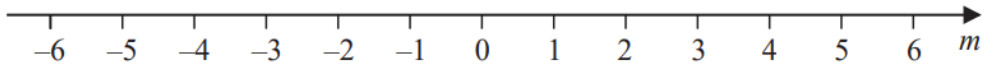
n is an integer.

(a) Write down the greatest possible value of n.

.....

(1)

(b) On the number line below, show the inequality $-4 \leqslant m < 1$



(2)

(c) Solve $\frac{2}{5}g - 4 < 6$

.....

(3)

(Total for Question 23 is 6 marks)