## Inequalities on a Number Line

Please write clearly in block capitals

Forename:

Surname:

## Materials

For this paper you must have:

- mathematical instruments

You can use a calculator.

## Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.


## Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.


## Advice

- In all calculations, show clearly how you work out your answer.

1(a) Which value for $x$ will satisfy the following inequality?

$$
6>x \geq-5
$$

$$
\begin{array}{llll}
x=-10 & x=-1 & x=6 & x=10
\end{array}
$$

1(b) Which inequality is satisfied by $x=3$ ?

$$
x \leq-3 \quad \mathrm{x}>-2 \quad 3>x>-9 \quad x>3
$$

1(c) Which inequality is equivalent to the following?

$$
6 x-3<2 x+9
$$

$$
\mathrm{x}<\frac{6}{8} \quad x>3 \quad x<3 \quad x>\frac{6}{8}
$$

2(a) Give the inequality described on the number line below.


Answer

2(b) Give the inequality described on the number line below.


Answer

2(c) Give the inequality described on the number line below.


Answer $\qquad$

Turn over for next question

3(a) Give the inequality described on the number line below.

[2 marks]

Answer $\qquad$

3(b) Give the inequality described on the number line below.


Answer $\qquad$

3(c) Give the inequality described on the number line below.


Answer $\qquad$

Turn over for next question

4(a) Label the number line that describes the following inequality:

$$
x<4
$$



4(b) Label the number line that describes the following inequality:

$$
x \geq-1
$$

4(c) Give the inequality described on the number line below.

$$
-2 \leq x \leq 8
$$



5 Labelling the number line accordingly, display the following inequality on the number line below.

$$
-0.7<x \leq-0.1
$$



Answer $\qquad$


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