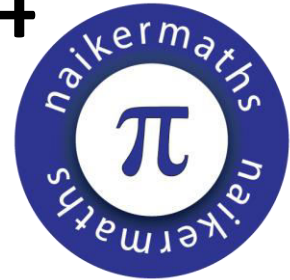


Name:.....

Total Marks:.....

GCSE (9-1) Grade 4

# Inequalities



## Instructions

Use **black** ink or ball-point pen.

**Fill in the boxes** at the top of this page with your name.

Answer **all** questions.

Answer the questions in the spaces provided

- there may be more space than you need.

**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.

Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed

## Advice

Read each question carefully before you start to answer it

Attempt every question

Check your answers if you have time at the end

1.  $-1 \leq n < 4$

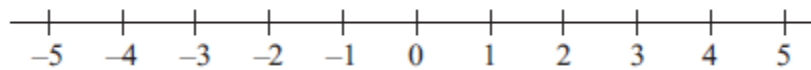
$n$  is an integer.

Write down all the possible values of  $n$ .

.....  
**(2 marks)**

2. (a)  $x > -3$

Show this inequality on the number line.



**(2)**

(b) Solve the inequality  $7y - 34 \leq 8$

.....  
**(2)**

(c) Write down the integer values of  $x$  that satisfy the inequality

$$-2 \leq x < 3$$

.....  
**(2)**

**(6 marks)**

3.  $-2 \leq n < 5$   
 $n$  is an integer.

(a) Write down all the possible values of  $n$ .

.....  
(2)

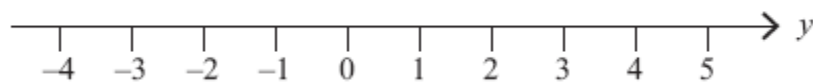
(b) Solve the inequality  $4x + 1 > 11$

.....  
(2)

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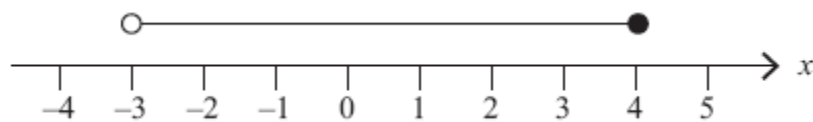
**(4 marks)**

4. (a) On the number line below, show the inequality  $-2 < y < 3$



(1)

(b) Here is an inequality, in  $x$ , shown on a number line.



Write down the inequality.

.....  
(2)

(c) Solve the inequality  $4t - 5 > 11$

.....  
(2)

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**(5 marks)**

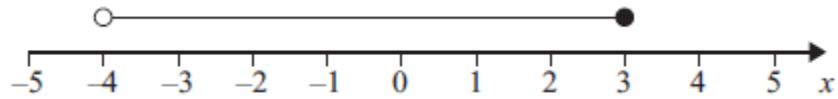
5. (a)  $n$  is an integer.

$$-1 \leq n < 4$$

List the possible values of  $n$ .

.....  
(2)

(b)



Write down the inequality shown in the diagram.

.....  
(2)

(c) Solve  $3y - 2 > 13$

.....  
(2)

---

**(6 marks)**

6.  $-3 < n \leq 1$

$n$  is an integer.

(a) Write down all the possible values of  $n$ .

.....  
(2)

(b) Solve the inequality  $3p - 7 > 11$

.....  
(2)

---

**(4 marks)**

7.  $n$  is an integer.

$$-3 < n < 4$$

(a) Write down all the possible values of  $n$ .

.....  
(2)

(b) Solve  $2x - 7 \leq 11$

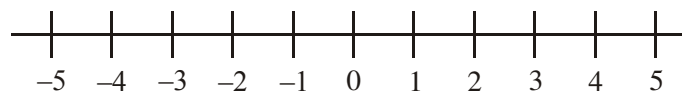
.....  
(2)  
**(4 marks)**

8. (a) (i) Solve the inequality

$$5x - 7 < 28$$

.....

(ii) On the number line, represent the solution set to part (i).



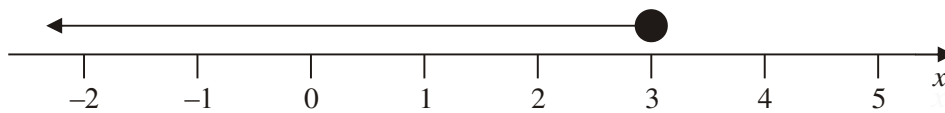
(3)

$n$  is an integer such that  $-4 \leq 2n < 3$ .

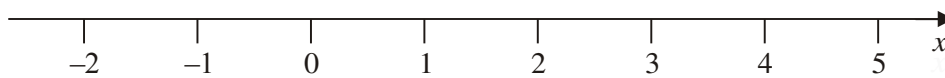
(b) Write down the possible values of  $n$ .

.....  
(3)  
**(6 marks)**

9. (i) Write down the inequality shown on the number line.



- (ii) Show the inequality  $x > 1$  on the number line below.



**(3 marks)**

10. (i) Solve the inequality  $7x - 3 > 18$

.....

$x$  is a whole number such that  $7x - 3 > 18$

- (ii) Write down the smallest value of  $x$ .

.....

**(4 marks)**

11. (a) Solve  $5x + 12 < 17$

(2)

$x = \dots\dots\dots$

(b) Solve the inequality  $3(2y + 1) > 10$

(2)

$\dots\dots\dots$

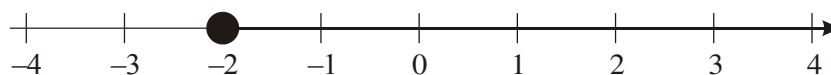
**(4 marks)**

12. (a) Solve the inequality  $4x - 3 < 7$

$\dots\dots\dots$

(2)

An inequality is shown on the number line.



(b) Write down the inequality.

$\dots\dots\dots$

(2)

(c)  $n$  is a whole number such that

$$6 \leq 3n < 15$$

List all the possible values of  $n$ .

$\dots\dots\dots$ (2)

**(6 marks)**

13.  $m$  is an integer such that  $-2 < m \leq 3$

(a) Write down all the possible values of  $m$ .

..... (2)

(b) Solve  $7x - 9 < 12$

..... (2)

**(4 marks)**

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