

# Inequalities

## Mark Scheme

Level	GCSE
Subject	Maths
Exam Board	Edexcel GCSE
Topic	Inequalities
Grade Level	Grade 4
Booklet	Mark Scheme

**Time Allowed:** 69 minutes

**Score:** /57

**Percentage:** /100

**Grade Boundaries:**

1.  $-1 \leq n < 4$

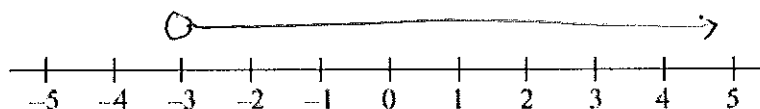
$n$  is an integer.

Write down all the possible values of  $n$ .

-1, 0, 1, 2, 3  
(2 marks)

2. (a)  $x > -3$

Show this inequality on the number line.



(2)

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

$$7y \leq 42$$

$$y \leq 6$$

$y \leq 6$   
(2)

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

$$-2 \leq x < 3$$

-2, -1, 0, 1, 2  
(2)

(6 marks)

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

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

$\dots -2, -1, 0, 1, 2, 3, 4$   
 (2)

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

$$4x > 10$$

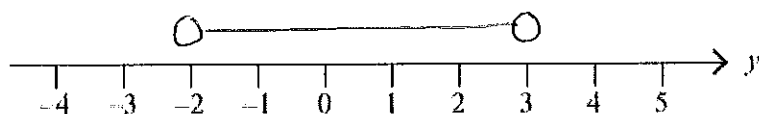
$$x > \frac{5}{2}$$

$$x > \frac{5}{2}$$

(2)

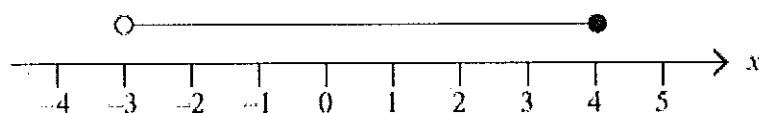
(4 marks)

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.

$$-3 < x \leq 4$$

(2)

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

$$4t > 16$$

$$t > 4$$

$$t > 4$$

(2)

(5 marks)

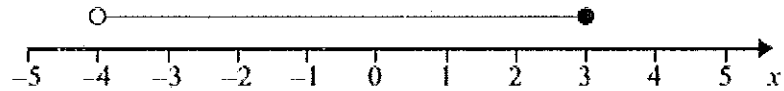
5. (a)  $n$  is an integer.

$$-1 \leq n < 4$$

List the possible values of  $n$ .

..... -1, 0, 1, 2, 3 .....  
(2)

- (b)



Write down the inequality shown in the diagram.

.....  $-4 < x \leq 3$  .....  
(2)

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

$$3y > 15$$
$$y > 5$$

.....  $y > 5$  .....  
(2)

(6 marks)

6.  $-3 < n \leq 1$

$n$  is an integer.

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

..... -2, -1, 0, 1 .....  
(2)

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

$$3p > 18$$
$$p > 6$$

.....  $p > 6$  .....  
(2)

(4 marks)

7.  $n$  is an integer.

$$-3 < n < 4$$

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

$$\dots -2, -1, 0, 1, 2, 3 \dots$$

(2)

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

$$2x \leq 18$$

$$x \leq 9$$

$$\dots x \leq 9 \dots$$

(2)

(4 marks)

8. (a) (i) Solve the inequality

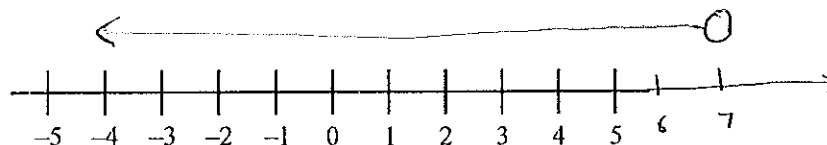
$$5x - 7 < 28$$

$$5x < 35$$

$$x < 7$$

$$\dots x < 7 \dots$$

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



(3)

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

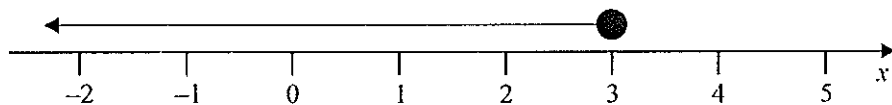
(b) Write down the possible values of  $n$ .

$$\dots -2 \leq n < \frac{3}{2} \dots$$

(3)

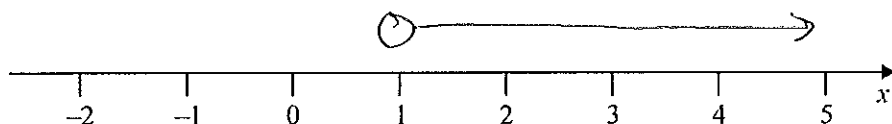
(6 marks)

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



$$x \leq 3$$

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



(3 marks)

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

$$7x > 21$$

$$x > 3$$

$$x > 3$$

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

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

$$7x > 21$$

$$x > 3$$

(4 is the smallest integer value)

$$x > 3$$

(4 marks)

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

(2)

$$5x < 5$$

$$x < 1$$

$$x < 1$$

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

(2)

$$6y + 3 > 10$$

$$6y > 7$$

$$y > 7/6$$

$$y > 7/6$$

(4 marks)

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

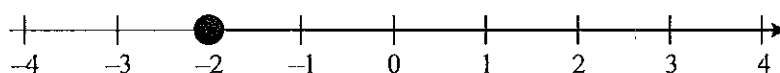
$$4x < 10$$

$$x < 5/2$$

$$x < 5/2$$

(2)

An inequality is shown on the number line.



- (b) Write down the inequality.

$$x \geq -2$$

(2)

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

$$6 \leq 3n < 15$$

List all the possible values of  $n$ .

$$2 \leq n < 5$$

$$2, 3, 4$$

(6 marks)

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

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

..... -1, 0, 1, 2, 3 .....  
(2)

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

$$7x < 21$$
$$x < 3$$

.....  $x < 3$  .....  
(2)

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(4 marks)