Bishops Online Tutoring

Education Consultancy

Edexcel GCSE Mathematics

ALGEBRA: INEQUALITIES

Materials Required:

- Pen
- HB Pencil
- Ruler (in centimetres and millimetres)
- Protractor
- Compass

Instructions:

- Use a black ink pen to answer all questions
- Fill your name in the section below
- Answer the questions in the spaces provided
- Show your working out for all answers

Information:

- The marks allocated for each question are displayed within brackets – utilise this information to gauge the appropriate amount of time to dedicate to each question
- Questions marked with an asterisk (*) will assess your written communication; be careful of spelling, punctuation and grammar with these questions

Advice:

- Carefully read the question before attempting to answer it
- Be vary of time and try to answer every question
- If you have enough time in the end, go back and check your answers. A good way to check your answers is to retry the question with the hope of getting the same answer as before without looking at your working out from before
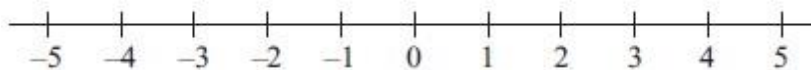
NO CALCULATOR ALLOWED

NAME:

1. $-1 \le n < 4$

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 $7y - 34 \le 8$

....
(2)

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

$-2 \le x < 3$

....
(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 $4x + 1 > 11$

....
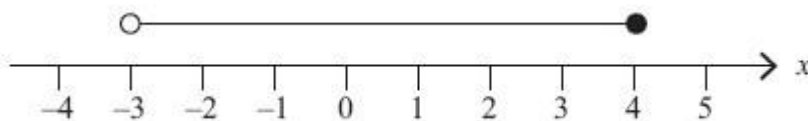
(2)

(4 marks)

4.   (a)   On the number line below, show the inequality $-2 < y < 3$
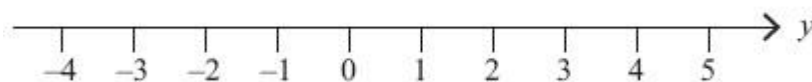
(1)

  (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)

(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 $2x - 7 \leq 11$

…………………………………

(4 marks)

8.   (a) (i)   Solve the inequality

$$5x - 7 < 28$$

………………………

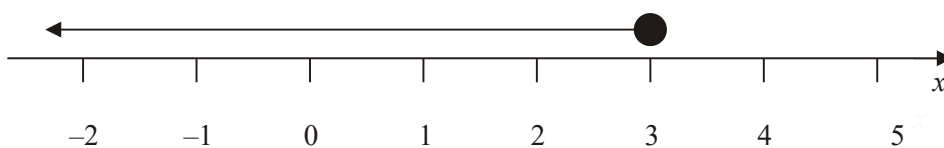(ii)   On the number line, represent the solution set to part (i).

-5   -4   -3   -2   -1   0   1   2   3   4   5
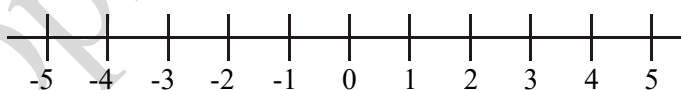
(3)

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.
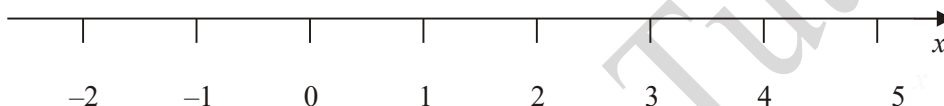
(3 marks)

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)

$x =$ ....

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

(2)

....
(4 marks)

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

………………
(2)

An inequality is shown on the number line.
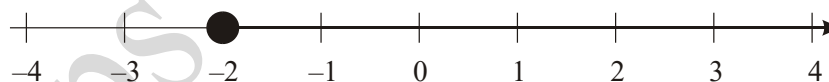
   (b) Write down the inequality.

……………………………
(2)

   (c) n is a whole number such that

$$6 \leq 3n < 15$$

List all the possible values of n.

…………………**(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)