Name: _____

GCSE (1 – 9)

Inequalities

Instructions

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

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

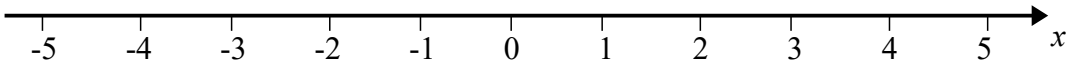
1 n is an integer such that $-2 \leq n < 3$

Write down all the possible values of n.

…….

(Total for question 1 is 2 marks)

2 (a) On the number line, show the inequality $x > -3$



(2)

$1 \leq y < 5$ where y is an integer.

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

…….

(2)

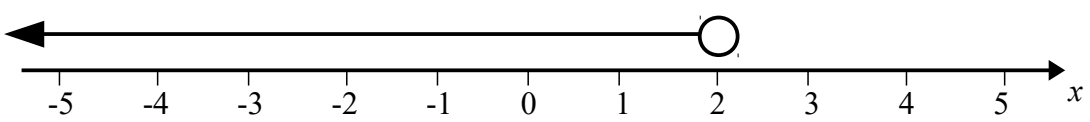
(c) Solve $4t + 7 \leq 19$

…….

(2)

(Total for question 2 is 6 marks)

3 Write down the inequality shown on the number line.



…….

(Total for question 3 is 2 marks)

4 (a) $-1 < n \leq 3$ where n is an integer.

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

…….

(2)

(c) Solve $2x - 5 > 8$

…….

(2)

(Total for question 4 is 4 marks)

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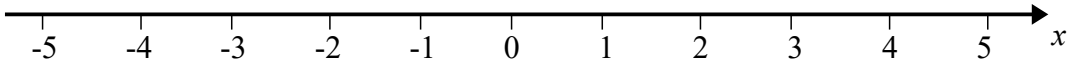
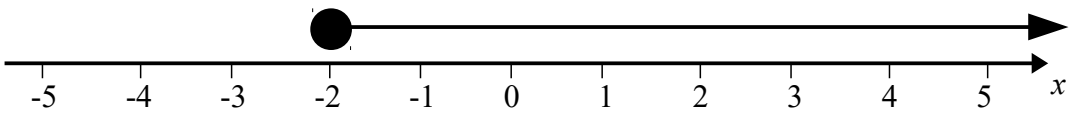
5 (a) On the number line, show the inequality $-2 < x < 4$



(2)

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

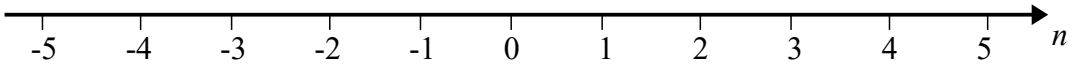


…….

(2)

(Total for question 5 is 4 marks)

6 (a) On the number line, show the inequality $n < 2$.



(2)

$4 \leq y < 8$ where y is an integer.

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

…….

(2)

(c) Solve $4x + 6 \leq x + 21$

…….

(3)

(Total for question 6 is 7 marks)

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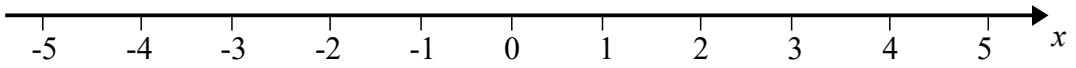
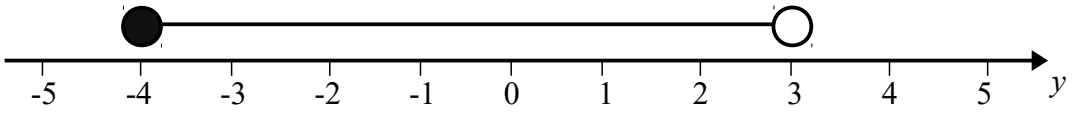
7 Solve $4x \leq x + 6$

Show your answer on the number line.



(Total for question 7 is 3 marks)

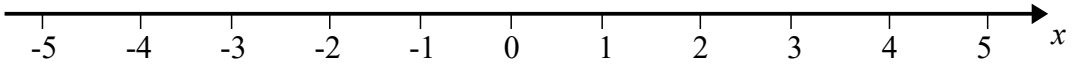
8 Write down the inequality shown on the number line.



…….

(Total for question 8 is 2 marks)

9 (a) On the number line, show the inequality $x + 1 \leq 4$



(2)

$5 < 2y < 12$ where y is an integer.

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

…….

(2)

(c) Solve $4 > 19 - 3x$

…….

(2)

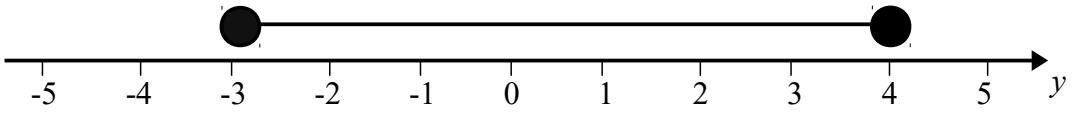
(Total for question 9 is 6 marks)

10 n is an integer such that $-8 < 3n < 10$
Write down all the possible values of n.

…….

(Total for question 10 is 2 marks)

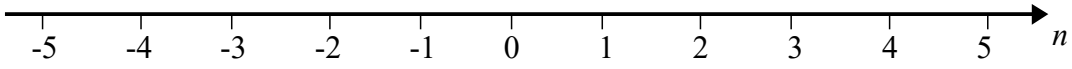
11 Write down the inequality shown on the number line.



…….

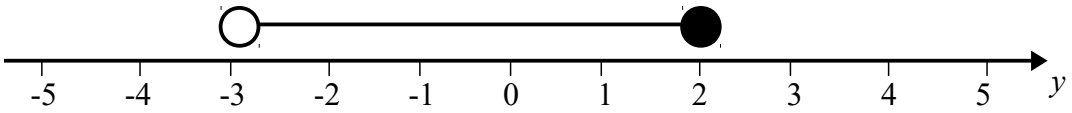
(Total for question 11 is 2 marks)

12 (a) On the number line, show the inequality $-4 < n \leq 5$



(2)

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



…….

(2)

(Total for question 12 is 4 marks)

13 Solve $2(3n - 5) > 12$

…….

(Total for question 13 is 2 marks)

14 n is an integer such that $-3 < 2n < 6$
Write down all the possible values of n.

…….....…….....

(Total for question 14 is 2 marks)

15 Solve $3(n + 1) < 24$

…….....…….....

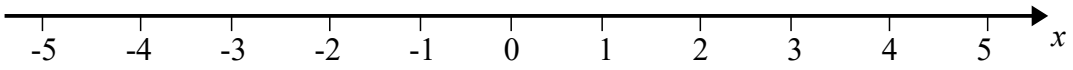
(Total for question 15 is 2 marks)

16 Solve $4(2x + 1) > 9$

…….....…….....

(Total for question 16 is 2 marks)

17 (a) On the number line, show the inequality $-3 \leq x + 2 < 2$



(3)

$1 \leq 2y - 3 < 9$ where y is an integer.

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

…….

(3)

(c) Solve $4x - 4 \leq 7x - 19$

…….

(3)

(Total for question 17 is 9 marks)