GCSE Exam Questions

Inequalities on a Number Line | Algebra

GCSE Exam Questions: Inequalities on a Number Line

1) **(a)** Solve:

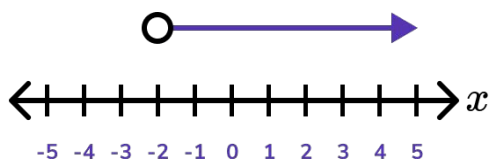$$7x - 1 < 20$$

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(2)

(b) Represent your solution to part (a) on the number line.

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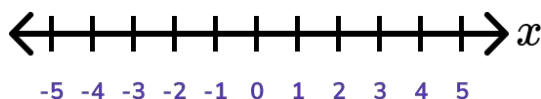
(2)

(4 marks)

2) Jason's solution to the inequality $4x + 1 \geq -7$

is shown on the number line.

Is Jason's solution correct?

Explain your answer.

(3 marks)

3) **(a)** Solve:

$$5x - 1 > 3x + 7$$

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(3)

(b) Write down the smallest integer that satisfies

$5x - 1 > 3x + 7$?

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(1)

(4 marks)

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1

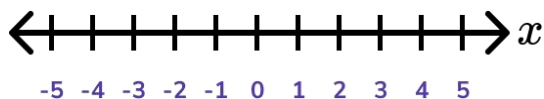## GCSE Exam Questions: Inequalities on a Number Line

4) **(a)** Let n be an integer where

$$-5 < 2n + 1 \leq 5$$
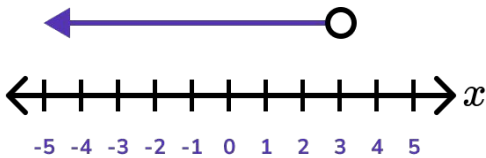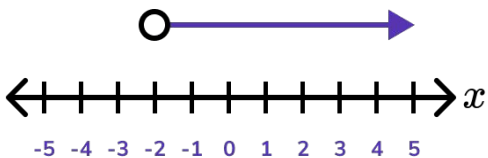
Write down all the possible integer values of n.

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(3)
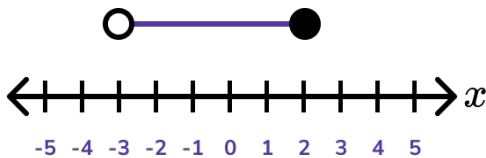
(b) Represent your solution to part (a) on the number line.

$$\longleftarrow\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow x$$

-5 -4 -3 -2 -1 0 1 2 3 4 5

- -

(2)

(5 marks)

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2

GCSE Exam Questions: Inequalities on a Number Line

	Question	Answer	Marks
1) (a)	Solve: $7x - 1 < 20$	**(a)** $\quad 7x < 21$ $\qquad x < 3$	**(1)** **(1)**
(b)	Represent your solution to part (a) on the number line.	**(b)** '3' indicated Empty circle with line to the left 	**(1)** **(1)**
2)	Jason's solution to the inequality $4x + 1 \geq -7$ is shown on the number line. Is Jason's solution correct? Explain your answer.	Yes $4x \geq -8$ $x \geq -2$	**(1)** **(1)** **(1)**
3) (a)	Solve: $5x - 1 > 3x + 7$	**(a)** $\quad 2x - 1 > 7$ or $5x > 3x + 8$ $\qquad 2x > 8$ $\qquad x > 4$	**(1)** **(1)** **(1)**
(b)	Write down the smallest integer that satisfies $5x - 1 > 3x + 7$?	**(b)** 5	**(1)**
4) (a)	Let n be an integer where $-5 < 2n + 1 \leq 5$ Write down all the possible integer values of n.	**(a)** $-6 < 2n \leq 4$ $-3 < n \leq 2$ - 2, - 1, 0, 1, 2	**(1)** **(1)** **(1)**
(b)	Represent your solution to part (a) on the number line.	**(b)** '-3' and '2' indicated Line connecting both circles with correct shading 	**(1)** **(1)**

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