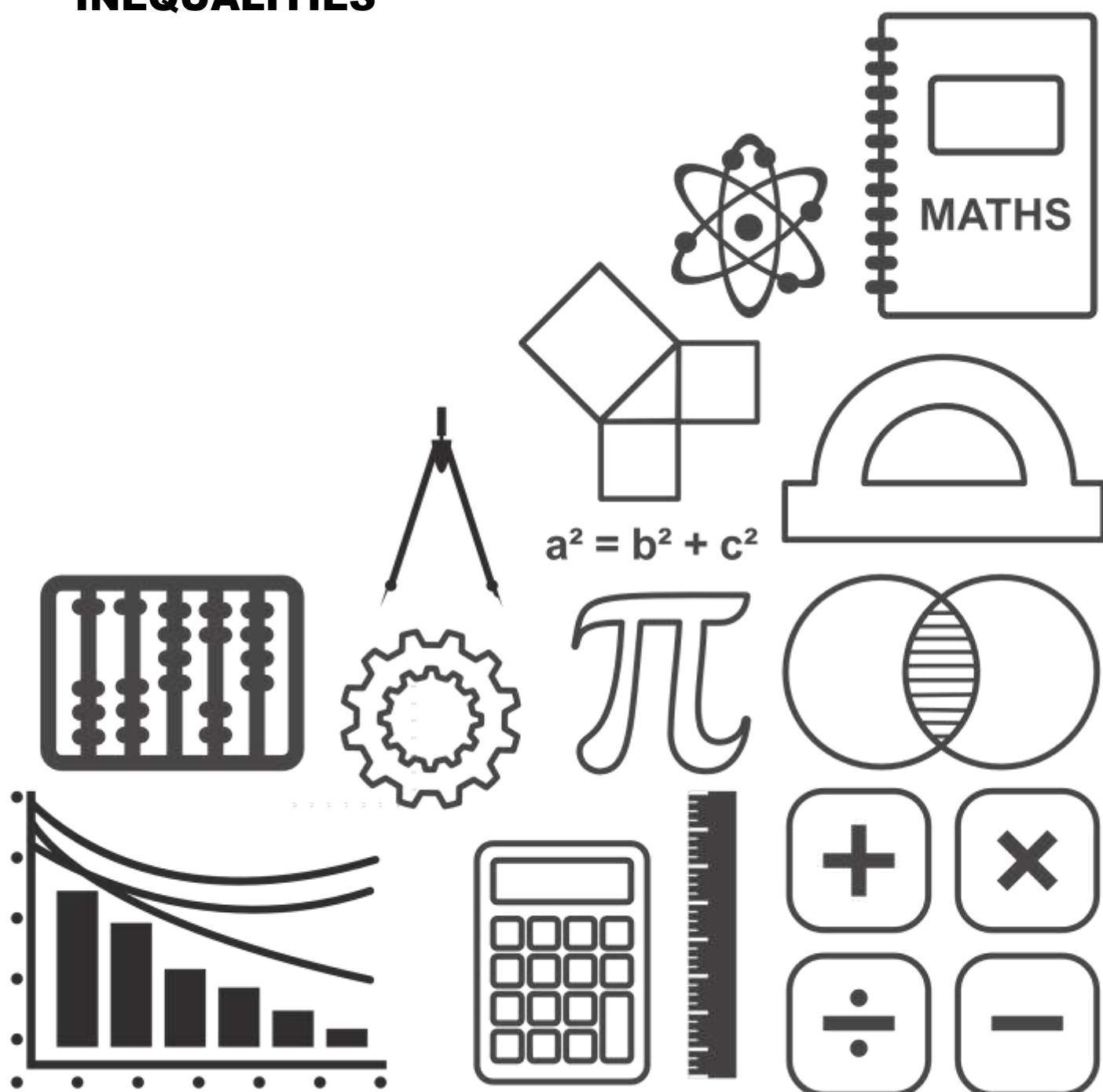


# MATHSDIY

## GCSE TOPIC BOOKLET INEQUALITIES



1. Use either symbol  $<$  or  $>$  in order to make each statement true.

$$2 \dots\dots\dots 9$$

$$10 \dots\dots\dots -1$$

$$-5 \dots\dots\dots -7$$

(2)

2. Solve the inequality

$$3 - x < 7 .$$

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(2)

3. Solve the inequality

$$3x - 4 < 26 .$$

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(2)

4. Solve the inequality

$$10x + 5 > 45 .$$

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(2)

5. Solve the inequality

$$5x - 22 < 188 .$$

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(2)

6. Solve the inequality

$$10x + 8 < 42 .$$

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(2)

7. Solve the inequality

$$6x + 5 < 47 .$$

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(2)

8. Solve the inequality

$$2x + 3 > 35 .$$

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 .....  
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(2)

9. Solve the inequality

$$3b + 2 > 29 .$$

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 .....  
 .....

(2)

10. Solve the inequality

$$6x + 4 < 100 .$$

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 .....  
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(2)

11. Solve the inequality

$$9x + 5 < 77 .$$

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(2)

12. Write down the greatest whole number that satisfies the inequality

$$78x < 845 .$$

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 .....

Greatest whole number is .....

(2)

13. Write down the smallest whole number that satisfies the inequality

$$6x > 62$$

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 .....

Smallest whole number is .....

(2)

14. Write down the greatest whole number that satisfies the inequality

$$3x < 81$$

.....  
 .....

Greatest whole number is .....

(2)

15. a) Rearrange the inequality

$$35 - 3n > 2n + 7$$

into the form  $n < \text{some number}$ .

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(2)

b) Given that  $n$  also satisfies the inequality  $3n > 1$ , write down all the integer values of  $n$  that satisfy both inequalities

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(2)

16. Find all the integer values of  $n$  that satisfy the inequality.

$$5 \leq 3n \leq 18$$

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(3)

17. Find all the integer values of  $n$  that satisfy the inequality.

$$6 \leq 2n \leq 13$$

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(3)

18. Find all the integer values of  $n$  that satisfy the inequality.

$$-8 \leq 3n \leq 6$$

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(3)

19. a) The inequality

$$7 - 3n < 12 - 5n$$

can be rearranged into one of the following forms:

**EITHER** the form  $n < a \text{ number}$

**OR** the form  $n > a \text{ number}$

Rearrange the inequality into whichever form is correct.

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(2)

b) Write down the least or greatest whole number value of  $n$  which satisfies your inequality. State whether it is the least or the greatest.

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(2)

20. Anwar went shopping to buy a book and some CDs.

He had exactly £60 with him.

In one shop, he bought a book costing £15 and some CDs.

Each CD cost £7.

When he paid for these items, he was given some change.

Anwar bought  $n$  CDs.

Write down an inequality which is satisfied by  $n$ .

What is the greatest number of CDs Anwar could have bought?

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(4)