Corbett maths

# Inequalities

Videos 176, 177 on Corbettmaths

Examples

Workout

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Question 1: Write out the following with either an < or > symbol

(a) 8 ☐ 6 (b) 2 ☐ 3 (c) 7 ☐ 10 (d) 5 ☐ 0

(e) 4 ☐ −1 (f) −4 ☐ 6 (g) 9 ☐ 9.4 (h) 0 ☐ −1

Question 2: Write down an inequality for each of the following

(a) x is greater than 8

(b) x is less than 3

(c) x is less than or equal to 1

(d) x is greater than or equal to 0

(e) x is less than 7

(f) x is greater than or equal to −2

(g) x is less than or equal to −10

(h) x is greater than 5

Question 3: Write down the meaning of these inequalities

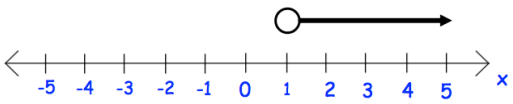
(a) $x > 6$ (b) $x < 2$ (c) $x \geq 1$ (d) $x \leq 4$

(e) $x \geq 0$ (f) $x \leq -4$ (g) $x < -2$ (h) $x > 20$

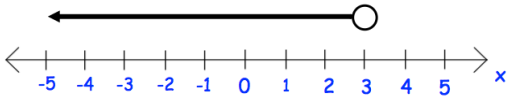
(i) $x < y$ (j) $a \geq b$ (k) $c > 5$ (l) $y \leq 100$

Question 4: Write down the inequalities shown below

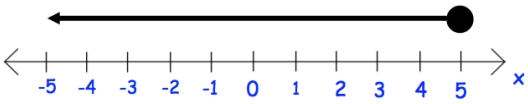
(a)



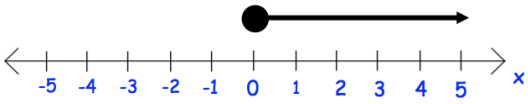

(b)




(c)




(d)



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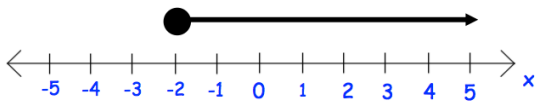
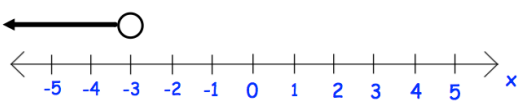
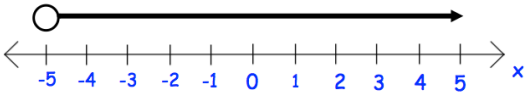
(e)



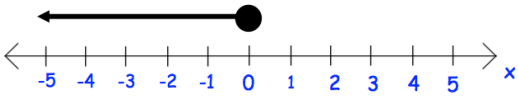

(f)




(g)




(h)




Question 5: Show these inequalities on a number line.

(a) $x > 2$ (b) $x < 4$ (c) $x \geq 3$ (d) $x \leq 5$

(e) $x \geq 0$ (f) $x \leq -1$ (g) $x < -4$ (h) $x > -5$

(i) $x \geq -6$ (f) $x > 0$ (g) $x < -2$ (h) $x > -1$

Question 6: Write down an inequality for each of the following

(a) x is greater than 2, but less than 5
(b) x is greater than 0, but less than 4
(c) x is greater than 1, but less than or equal to 7
(d) x is greater than −5, but less than or equal to 2
(e) x is greater than or equal to −8, but less than 3
(f) x is greater than or equal to 10, but less than 20
(g) x is greater than or equal to 3, but less than or equal to 6
(h) x is greater than or equal to 8, but less than or equal to 11

Question 7: Write down the meaning of these inequalities

(a) $3 < x < 5$ (b) $2 < x < 9$ (c) $19 \leq x < 20$ (d) $5 \leq x \leq 10$

(e) $0 < x \leq 4$ (f) $-4 \leq x < 1$ (g) $-8 \leq x \leq -6$ (h) $100 < x < 200$

Question 8: List all the integers (whole number) that satisfies each inequality

(a) $2 < x < 6$ (b) $5 < x < 10$ (c) $4 \leq x < 8$ (d) $12 \leq x \leq 15$

(e) $-2 < x \leq 3$ (f) $-5 \leq x < 1$ (g) $-10 \leq x \leq -5$ (h) $-4 < x < 4$

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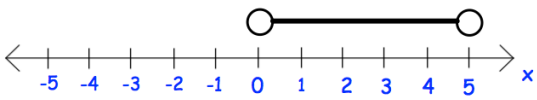
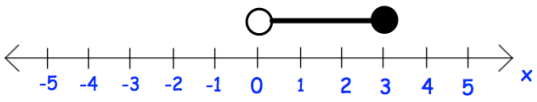
Question 9: Write down the inequalities shown below

(a)


(b)



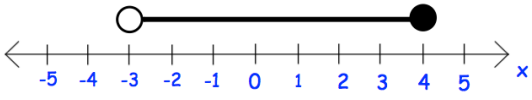

(c)




(d)


(e)


(f)




## Apply

Question 1: The cost, c, of a TV is less than £300. Write this as an inequality.

Question 2: To go on a rollercoaster, a person's height, h, must be over 140cm. Write this as an inequality.

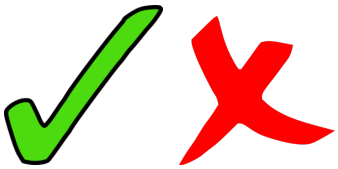
Question 3: The value of a house, v, is £100,000 or more. Write this as an inequality.

Question 4: There are 20 students in a class. The number of students present on a particular day is 20 or less. Write this as an inequality.

Question 5: Write down any integers (whole numbers) that satisfies **both** $x > 4$ and $x \leq 8$

Question 6: Write down any integers (whole numbers) that satisfies **both** $2 < x \leq 9$ and $x > 5$

## Answers



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