

Examples

Workout



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

- (a)  $8 \square 6$       (b)  $2 \square 3$       (c)  $7 \square 10$       (d)  $5 \square 0$   
 (e)  $4 \square -1$       (f)  $-4 \square 6$       (g)  $9 \square 9.4$       (h)  $0 \square -1$

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

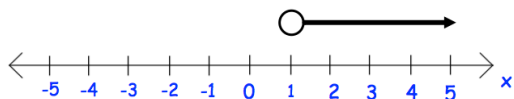
- (a)  $x$  is greater than 8      (b)  $x$  is less than 3  
 (c)  $x$  is less than or equal to 1      (d)  $x$  is greater than or equal to 0  
 (e)  $x$  is less than 7      (f)  $x$  is greater than or equal to  $-2$   
 (g)  $x$  is less than or equal to  $-10$       (h)  $x$  is greater than 5

Question 3: Write down the meaning of these inequalities

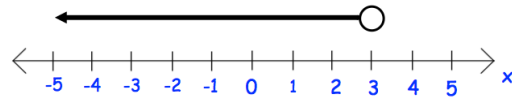
- (a)  $x > 6$       (b)  $x < 2$       (c)  $x \geq 1$       (d)  $x \leq 4$   
 (e)  $x \geq 0$       (f)  $x \leq -4$       (g)  $x < -2$       (h)  $x > 20$   
 (i)  $x < y$       (j)  $a \geq b$       (k)  $c > 5$       (l)  $y \leq 100$

Question 4: Write down the inequalities shown below

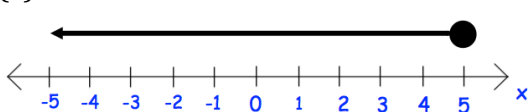
(a)



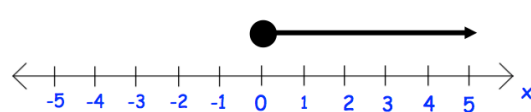
(b)

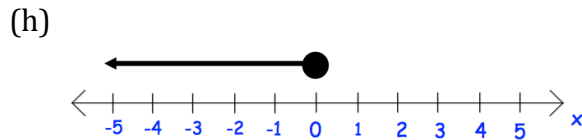
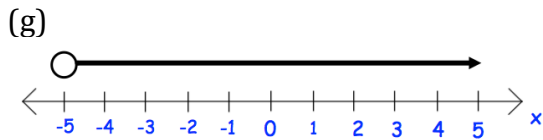
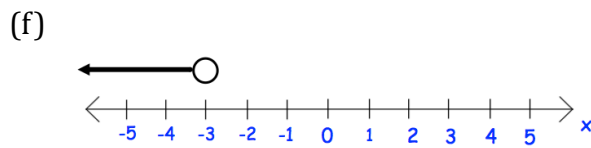
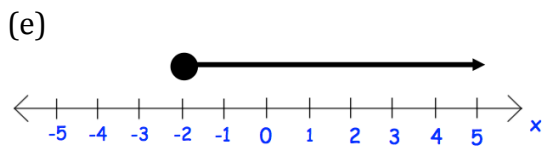


(c)



(d)





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) $x \geq -6$ | (j) $x > 0$     | (k) $x < -2$   | (l) $x > -1$   |

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

- $x$  is greater than 2, but less than 5
- $x$  is greater than 0, but less than 4
- $x$  is greater than 1, but less than or equal to 7
- $x$  is greater than  $-5$ , but less than or equal to 2
- $x$  is greater than or equal to  $-8$ , but less than 3
- $x$  is greater than or equal to 10, but less than 20
- $x$  is greater than or equal to 3, but less than or equal to 6
- $x$  is greater than or equal to 8, but less than or equal to 11

Question 7: Write down the meaning of these inequalities

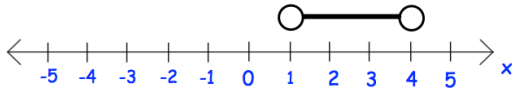
- |                    |                     |                         |                        |
|--------------------|---------------------|-------------------------|------------------------|
| (a) $3 < x < 5$    | (b) $2 < x < 9$     | (c) $19 \leq x < 20$    | (d) $5 \leq x \leq 10$ |
| (e) $0 < x \leq 4$ | (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) $-4 < x < 4$        |

Question 9: Write down the inequalities shown below

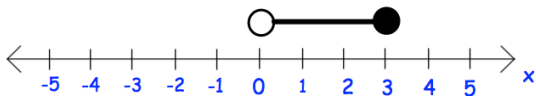
(a)



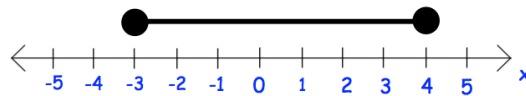
(b)



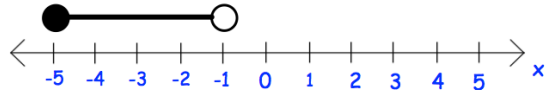
(c)



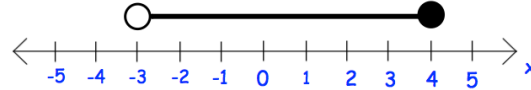
(d)



(e)



(f)

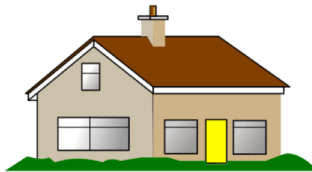


## Apply

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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