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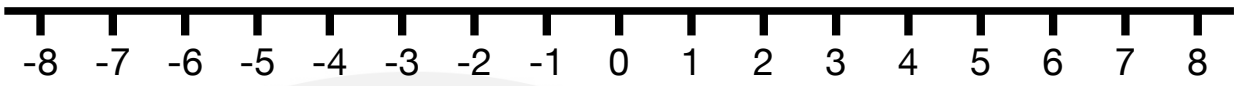
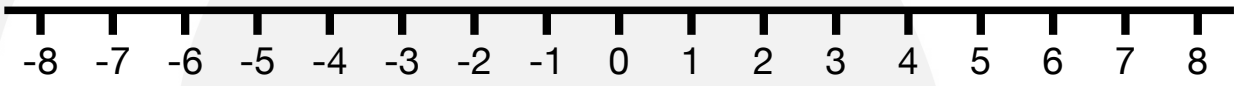
99. Solving inequalities

Practice Questions:

1. Show the inequality $x > 2$ on a number line.

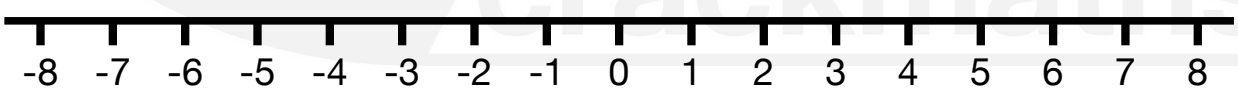


2. Show the inequality $-3 \leq x < 1$ on a number line.

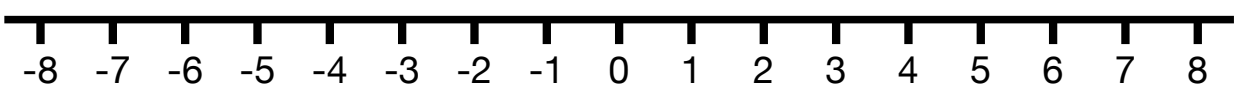


3. Show the inequality $x \leq -4$ on a number line.

4. Show the inequality $1 < x \leq 5$ on a number line.



5. Show the inequality $-2 < x < 3$ on a number line.



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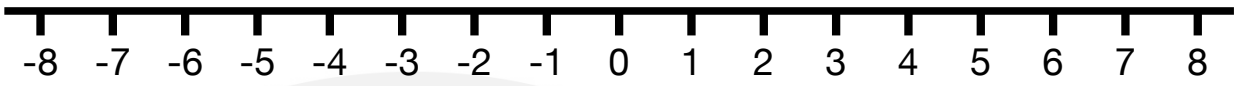
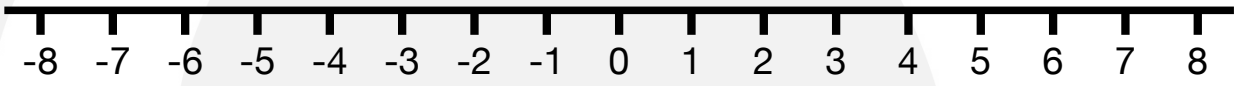
99. Solving inequalities

Practice Questions:

6. Solve the inequality $2x + 3 < 9$ and represent your answer on a number line.

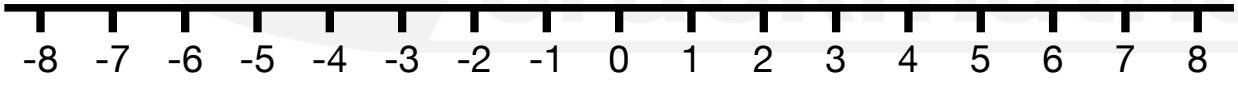


7. Solve the inequality $3x - 4 \geq 8$ and represent your answer on a number line.

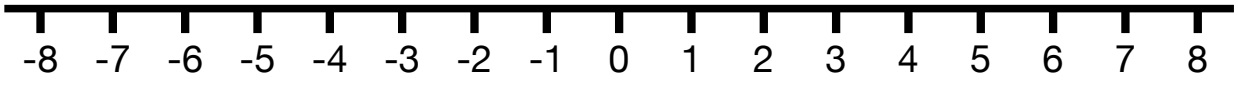


8. Solve the inequality $-2x + 5 \leq 1$ and represent your answer on a number line.

9. Solve the double inequality $-3 < 2x + 1 \leq 7$ and represent your answer on a number line.



10. Solve the double inequality $4 \leq 5 - x < 10$ and represent your answer on a number line.



99. Solving inequalities

Scenario Questions:

1. A cinema ticket costs £6 each. You have less than £25 to spend. Write and solve an inequality to show how many tickets, x, you could buy.

2. A box can hold a maximum of 12 books. Each book less than 3 cm wide. Write and solve an inequality to indicate the values that the width of the box could be.

3. A bus can carry at most 40 people. There are already 18 people on board, p passengers get on. Write and solve an inequality to show the potential values of p.

4. A school trip costs £150 per student plus a £200 coach fee. The total cost must not be more than £1,100. Write and solve an inequality to show the number of students, n, who could go on the trip.

5. A mobile phone contract costs £12 per month and you have less than £80 available to spend. Write and solve an inequality to show the possible number of months, m, you can afford.

99. Solving inequalities

Scenario Questions:

6. A rectangle has a length of $3x + 2$ cm and width of 5 cm. The perimeter must be greater than 30 cm. Write and solve an inequality in terms of x to show the possible values of x.

7. The height of a ladder is $2x + 1$ metres. For safety reasons, the ladder must be at least 5 metres tall. Write and solve an inequality for x.

8. A concert hall can hold 150 people. There are x adults and 2x children attending. Write and solve an inequality to find the maximum number of adults.

9. A student sits two tests. In the first test they score x marks. In the second test they score $x + 12$ marks. Their total must be at least 40 to pass. Write and solve an inequality for x.

10. A farmer sells apples at £0.50 each. He wants to earn at least £200. Write and solve an inequality to find the minimum number of apples, a, he must sell.

ANSWERS

Topic 99. Solving inequalities

Practice Questions:

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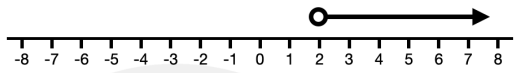

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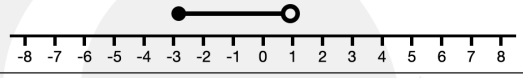

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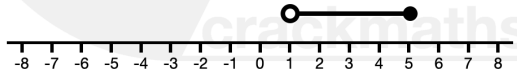

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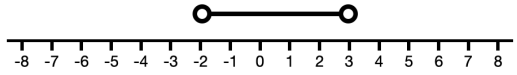

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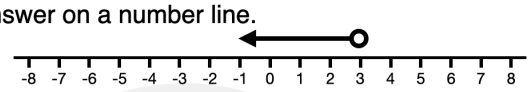

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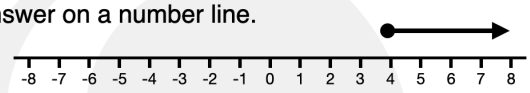

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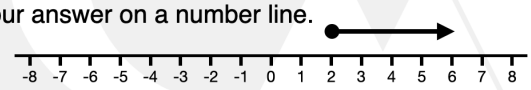

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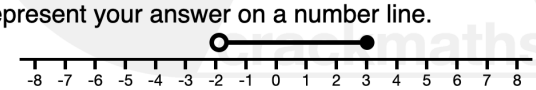

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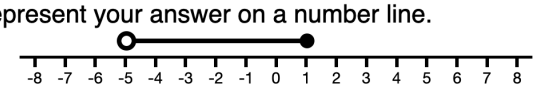

Scenario Questions:

1. $x < 4.17$
2. $w < 36$
3. $p \leq 22$
4. $n \leq 6$
5. $m < 6.67$
6. $x > 3$
7. $x \geq 2$
8. $x \leq 50$
9. $x \geq 14$
10. $a \geq 400$