Solving Linear Inequalities

Year 10–11 Maths · Years 10–11 · NCEA Level 1 · About 20 minutes · 8 questions

Name _____ Date _____ Score / 8

WHAT YOU WILL PRACTISE

- Solve linear inequalities in one variable
- Reverse the inequality sign when dividing by a negative number
- List the integers that satisfy an inequality

WORKED EXAMPLE

Solve $7 - 3x \geq 1$.

1. Subtract 7 from both sides: $-3x \geq -6$.
2. Divide both sides by -3 and reverse the sign, because you are dividing by a negative number: $x \leq 2$.
3. Check with $x = 2$: $7 - 6 = 1$, which is equal to 1, so the boundary is correct.

Answer: $x \leq 2$

Questions

Show your working in the space under each question.

1. Solve $x + 4 > 9$

2. Solve $3x \leq 18$

3. Solve $2x - 5 < 9$

© YFCampus · www.yfcampus.com · Free to print for home and classroom use. Not for resale.

4. Solve $4x + 3 \geq 23$

5. Solve $5x - 2 > 3x + 8$

6. Solve $3(x - 2) \leq 12$

7. Solve $-2x < 10$

8. List the integers that satisfy $-2 < x \leq 3$

© YFCampus · www.yfcampus.com · Free to print for home and classroom use. Not for resale.

Answers: Solving Linear Inequalities

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

Q	QUESTION	ANSWER
1	Solve $x + 4 > 9$	**$x > 5$**
2	Solve $3x \leq 18$	**$x \leq 6$**
3	Solve $2x - 5 < 9$	**$x < 7$**
4	Solve $4x + 3 \geq 23$	**$x \geq 5$**
5	Solve $5x - 2 > 3x + 8$	**$x > 5$**
6	Solve $3(x - 2) \leq 12$	**$x \leq 6$**
7	Solve $-2x < 10$	**$x > -5$**
8	List the integers that satisfy $-2 < x \leq 3$	**$-1, 0, 1, 2, 3$**

TUTOR TIP

Solve it like an equation, but reverse the inequality sign whenever you multiply or divide both sides by a negative number.

Stuck on a question? Work through it live with a tutor.

YFCampus offers one-to-one online Maths tutoring matched to your school curriculum. Book a free trial class at **www.yfcampus.com/nz**

Written for students aged 13 to 16 and suitable for Years 10–11. Check your school's curriculum for the exact order of topics. YFCampus is independent and is not affiliated with any exam board or education ministry.