

CLASS 11

MATHS

EXTRA QUESTIONS

Class 11 Maths Chapter 5 Linear Inequalities – Extra Questions with Answers

Extra practice questions for Class 11 Maths Chapter 5 (Linear Inequalities), beyond the textbook. These Class 11 Maths Chapter 5 important questions are handy for last-minute exam practice.

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Very Short Answer Questions (1 mark)

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Class 11 Maths Chapter 5 – Solutions and Notes

Extra practice questions for Class 11 Maths Chapter 5 (Linear Inequalities), beyond the textbook. These Class 11 Maths Chapter 5 important questions are handy for last-minute exam practice.

Very Short Answer Questions (1 mark)

Q1. Solve for x : $x + 3 > 7$.

Ans: $x > 4$.

Q2. Solve for x : $-2x < 8$.

Ans: $x > -4$ (direction reversed since divided by negative).

Q3. Should the boundary line be solid or dashed for the inequality $y < 2x+1$?

Ans: Dashed (strict inequality, boundary excluded).

Q4. Is $x = 5$ included in the solution set of $x \geq 5$?

Ans: Yes.

Q5. What symbol represents “at most”?

Ans: $\leq$.

Short Answer Questions (2–3 marks)

Q6. Solve the inequality $3x - 5 \leq 2x + 1$, showing all steps.

Ans: $3x - 2x \leq 1 + 5$, giving $x \leq 6$.

Q7. Solve and represent on a number line: $-3 < 2x + 1 \leq 5$.

Ans: Subtract 1 throughout: $-4 < 2x \leq 4$. Divide by 2: $-2 < x \leq 2$. On the number line: open circle at -2 , closed (filled) circle at 2 , shaded between.

Q8. A test point method is used to shade the region for $x + y \leq 4$. Using the origin $(0,0)$ as the test point, determine which side of the line $x+y=4$ should be shaded.

Ans: Substituting $(0,0)$: $0+0 = 0 \leq 4$, which is TRUE, so the origin satisfies the inequality, meaning the side of the line containing the origin should be shaded.

Higher-Order Thinking / Application Questions

Q9. A factory produces two products, A and B. Constraints require $2x + 3y \leq 12$ (resource limit) and $x, y \geq 0$ (non-negative production). Sketch (describe in words) the feasible region, and identify one point that satisfies all constraints.

Ans: The feasible region is a triangle bounded by the x -axis, y -axis, and the line $2x+3y=12$ (with the region including the origin side, since $(0,0)$ satisfies $2(0)+3(0)=0 \leq 12$). One valid point satisfying all constraints: $(2,2)$, since $2(2)+3(2)=4+6=10 \leq 12$, and both $x=2$, $y=2$ are non-negative.

Q10. Explain, using an example, why the rule “reverse the inequality when multiplying/dividing by a negative” is necessary, rather than just an arbitrary rule to memorise.

Ans: Consider $2 < 3$ (a true statement). Multiplying both sides by -1 without reversing would give $-2 < -3$, which is FALSE (-2 is actually greater than -3). Reversing the inequality gives $-2 > -3$, which is TRUE. This shows the rule isn't arbitrary — it's necessary to keep the inequality mathematically consistent, since multiplying by a negative number flips the relative order of numbers on the number line.

Class 11 Maths Chapter 5 – Solutions and Notes

For complete step-by-step answers and a quick summary, check the [Class 11 Maths Chapter 5 Solutions](#) and [Class 11 Maths Chapter 5 Revision Notes](#).

See also: [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#)

Practice more: [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#)

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