

# SOLVING INEQUALITIES WITH UNKNOWN ON BOTH SIDES

Answer all of these questions. Remember to show your working out in all questions.

## MAIN QUESTIONS

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|---------------------------|----------------------------|
| 1. $2x + 3 < x + 5$       | 2. $4x - 1 > 2x + 7$       |
| 3. $5x + 2 \leq 3x + 10$  | 4. $7x - 4 \geq 3x + 8$    |
| 5. $x + 6 < 2x - 1$       | 6. $3x - 5 > x + 9$        |
| 7. $6x + 4 \leq 4x + 12$  | 8. $8x - 3 \geq 5x + 9$    |
| 9. $2x + 7 < 5x - 2$      | 10. $9x - 6 > 6x + 3$      |
| 11. $4x + 5 \leq 7x - 4$  | 12. $10x + 1 \geq 7x + 10$ |
| 13. $3x - 2 < 7x + 6$     | 14. $5x + 3 > 9x - 5$      |
| 15. $6x - 4 \leq 10x + 8$ | 16. $12x + 7 \geq 8x + 15$ |

## MASTER QUESTIONS

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- M1.** A number is such that when it is multiplied by 3 and 5 is added, the result is less than when it is multiplied by 4 and 2 is subtracted. Find the possible values of the number.
- M2.** The sum of two consecutive integers is greater than 21 but less than 25. Find the possible pairs of integers.

- M3.** A rectangle has a length that is 3cm more than its width. The perimeter of the rectangle is at least 26cm. Find the minimum possible width of the rectangle.
- M4.** A school trip costs £200 for the bus and £15 per student. If the total cost must be less than £500, find the maximum number of students that can go on the trip.