

Name:.....

Total Marks:.....

GCSE (9-1) Grade 8/9

# Quadratic Inequalities



## Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name.
- Answer **all** questions.
- Answer the questions in the spaces provided
  - there may be more space than you need.
- **Show all your working out**

## Information

- The total mark for this paper is 70.
- The marks for **each** question are shown in brackets.
  - use this as a guide as to how much time to spend on each question.
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed

## Advice

- Read each question carefully before you start to answer it
- Attempt every question
- Check your answers if you have time at the end



1. Solve  $x^2 + 9x + 18 > 0$

.....  
**(Total 3 marks)**

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2. Solve  $2x^2 - 11x + 12 < 0$

.....  
**(Total 3 marks)**



3. Solve  $(x - 2)(x + 7) > 0$

.....  
**(Total 4 marks)**

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4. Solve  $x(5 - x) < 0$

.....  
**(Total 4 marks)**



5. Solve  $15 + 2x - x^2 \leq 0$

.....  
**(Total 4 marks)**

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6. Solve  $(5 + x)(1 - 2x) \geq 0$

.....  
**(Total 4 marks)**



7. Solve  $16 - x^2 \leq 6x$

.....  
**(Total 4 marks)**

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8. Solve  $2x^2 > 11x - 12$

.....  
**(Total 4 marks)**



9. Solve  $7 + 2(4x^2 - 15x) \leq 0$

.....  
**(Total 4 marks)**

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10. Solve  $x^2 - 4(x + 6) > 8$

.....  
**(Total 4 marks)**



11. Solve  $7 + 2(4x^2 - 15x) \leq 0$

.....  
**(Total 4 marks)**

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12. Solve  $(x + 5)^2 \geq 1$

.....  
**(Total 4 marks)**



13. Solve  $x^2 \leq 25$

.....  
(Total 4 marks)

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14. Solve  $x^2 - 100 > 0$

.....  
(Total 4 marks)





15. Solve  $\frac{x^2+12}{2} \geq 4x$

.....  
(Total 4 marks)

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16. Find the solution set for which  $15 + 2x \leq x^2$

.....  
(Total 4 marks)



17. Find the set of values for which  $6 + x \geq x^2$  and  $x + 2 < x^2$

.....  
(Total 4 marks)

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18. Find the solution set for  $(x - 3)(2x + 3) < 2x(1 - 2x) - 5$

.....  
(Total 4 marks)

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**TOTAL FOR PAPER IS 70 MARKS**