

Name:

Date:

Quadratic Inequalities

GCSE

Edexcel
Mathematics
Grade (9-1)

Mark

Score (%)

— 69

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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

1 Solve for x the inequality $(x + 3)(x - 2) > 0$

Leave
blank

.....
(Total for question 1 is 2 marks)

2 Solve for x the inequality $x(x - 2) > 0$

.....
(Total for question 2 is 2 marks)

Leave
blank

3 Solve for x the inequality $x^2 + 4x + 3 < 0$

.....
(Total for question 3 is 3 marks)

4 Solve for x the inequality $x^2 - x - 20 \leq 0$

.....
(Total for question 4 is 3 marks)

5 Solve for x the inequality $x^2 + 2x - 35 \geq 0$

Leave
blank

.....
(Total for question 5 is 3 marks)

6 Solve for x the inequality $x^2 - x - 60 \leq 0$

.....
(Total for question 6 is 3 marks)

7 Solve for x the inequality $x^2 - 9 \leq 0$

Leave
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.....
(Total for question 7 is 3 marks)

8 Solve for x the inequality $x^2 - 49 > 0$

.....
(Total for question 8 is 3 marks)

Leave
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9 Solve for x the inequality $2x^2 - 14x + 24 > 0$

.....
(Total for question 9 is 3 marks)

10 Solve for x the inequality $-x^2 - 2x + 5 > 0$

.....
(Total for question 10 is 3 marks)

11 Solve for x the inequality $x^2 < 2(x + 24)$

Leave
blank

.....
(Total for question 11 is 4 marks)

12 Solve for x the inequality $3x^2 < 2(5x - 4)$

.....
(Total for question 12 is 4 marks)

13 Solve for x the inequality $9x^2 < 3(x + \frac{20}{3})$

Leave
blank

.....
(Total for question 13 is 4 marks)

14 Solve for x the inequality $2x^2 + 4x < 2(2x + 49)$

.....
(Total for question 14 is 4 marks)

15 Solve for x the inequality $x^2 + 5x + 3 < 0$

Leave
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.....
(Total for question 15 is 3 marks)

16 Solve for x the inequality $2x^2 + 13x + 7 \leq 0$

.....
(Total for question 16 is 3 marks)

17 Solve for x the inequality $2x^2 + 7(x - 9) \leq 0$

Leave
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.....
(Total for question 17 is 4 marks)

18 Solve for x the inequality $(x^2 + 4x + \frac{25}{2}) \leq 0$

.....
(Total for question 18 is 4 marks)

19 Solve for x the inequality that satisfy the following inequalities

$$2x - 6 > 6 - 6x \quad \text{and} \quad x^2 - 6x + 2 < 42$$

.....
(Total for question 19 is 5 marks)

20 Solve for x the inequality that satisfy the following inequalities

$$x^2 - 100 > 0 \quad \text{and} \quad x^2 + 8x - 105 < 42$$

.....
(Total for question 20 is 5 marks)

21 Solve for m the inequality

$$22 < \frac{m^2 + 7}{4} < 32$$

Leave
blank

.....
(Total for question 21 is 5 marks)