

AQA, OCR, Edexcel

GCSE

GCSE Maths

Quadratic Inequalities Answers

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Total Marks: /20

Quadratic Inequalities

1. Solve the following quadratic inequalities:

a. $x^2 \leq 49$ $-7 \leq x \leq 7$

b. $x^2 + 2 \geq 7$ $x \leq -\sqrt{5}, x \geq \sqrt{5}$

c. $\frac{3x^2}{4} \geq 32$ $x \leq -\frac{8\sqrt{6}}{3}, x \geq \frac{8\sqrt{6}}{3}$

d. $-3x^2 + 5 \geq 0$ $-\frac{\sqrt{15}}{3} \leq x \leq \frac{\sqrt{15}}{3}$

(5 Marks)

2. Solve the inequality $x^2 - 3x - 4 < 0$, by using the axis below.

Answer:

$$-1 < x < 4$$

(5 Marks)

3. Solve the inequality $5x^2 + 2x - 3 < 1$. Use the axis below if needed.

Answer:

Exact: $\frac{1}{5}(-1 - \sqrt{21}) < x < \frac{1}{5}(\sqrt{21} - 1)$

Approximate: $-1.12 < x < 0.72$

(5 Marks)

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4. Solve the inequality- $x^2 - 4x + 4 > 0$. Use axis below if needed.

Answer:

$$-2 - 2\sqrt{2} < x < 2\sqrt{2} - 2$$

(5 Marks)