MME
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GCSE MATHEMATICS

AQA | Edexcel | OCR | WJEC

(Level 7- 8)

Quadratic Inequality Graphs

Please write clearly in block capitals

Forename:
Surname:

Materials

For this paper you must have:
- mathematical instruments

You ***can*** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

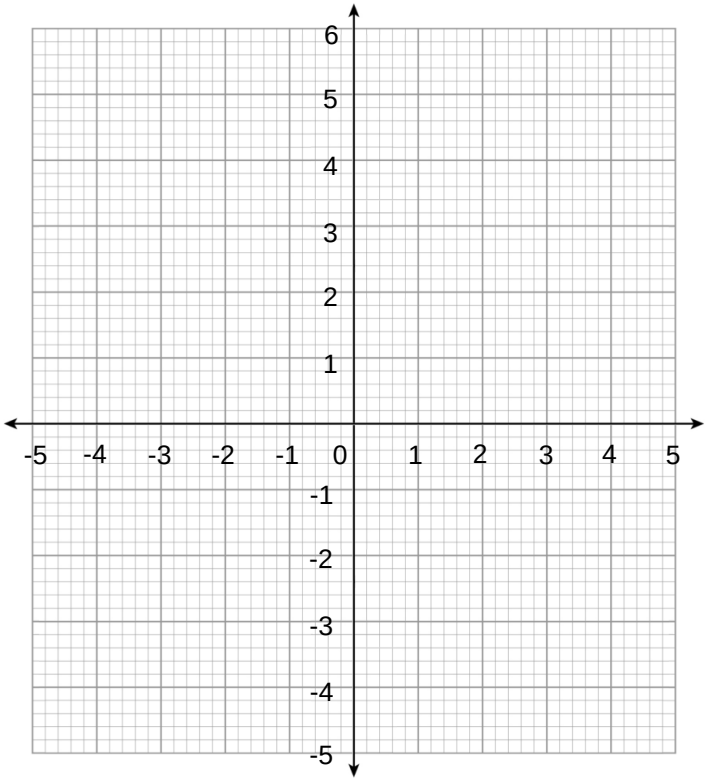
1(a) Factorise $x^2 - 4x + 3$. *(Level 7)*

[2 marks]

Answer _____

1(b) Hence, solve $x^2 - 4x + 3 < 0$ graphically or otherwise.

[2 marks]



Answer _____

4

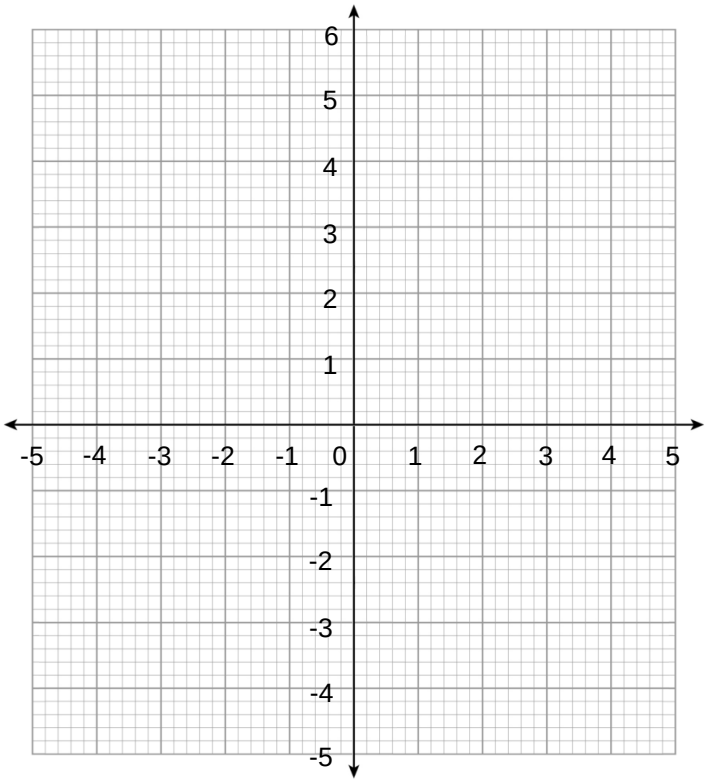
2(a) Factorise $m^2 + 5m + 4$. *(Level 7)*

[2 marks]

Answer _____

2(b) Hence, $m^2 + 5m + 4 > 0$ graphically or otherwise.

[2 marks]



Answer _____

Turn over for next question

4

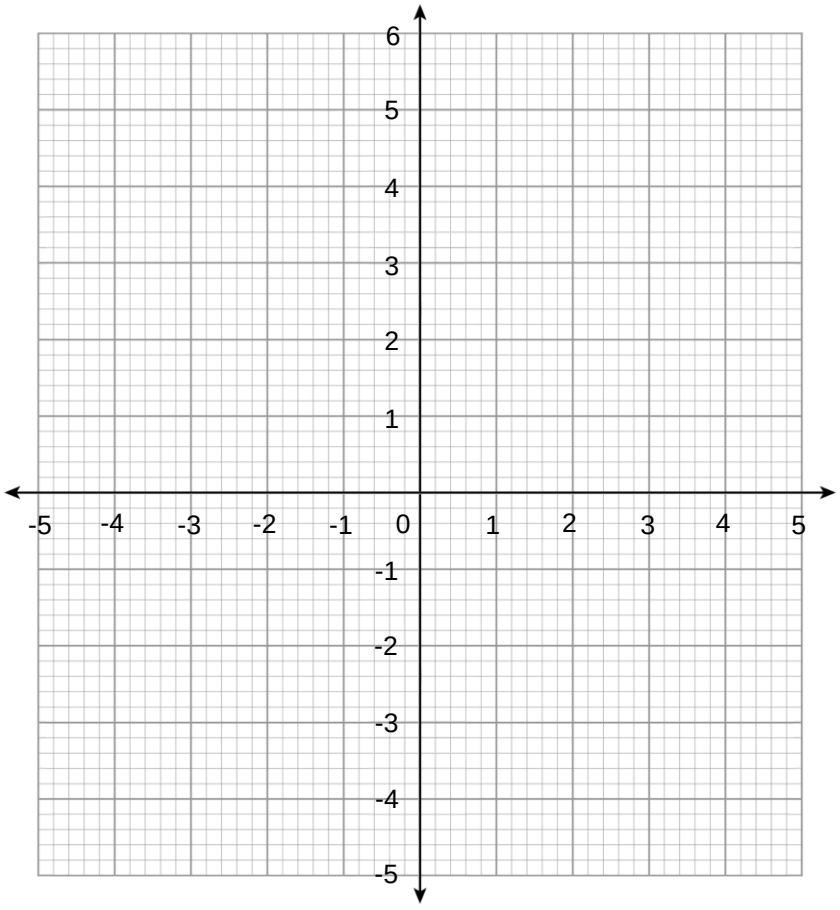
3(a) Factorise $6x^2 + 48x + 90$. *(Level 7)*

[3 marks]

Answer _____

3(b) Hence, $6x^2 + 48x + 90 \geq 0$ graphically or otherwise.

[2 marks]

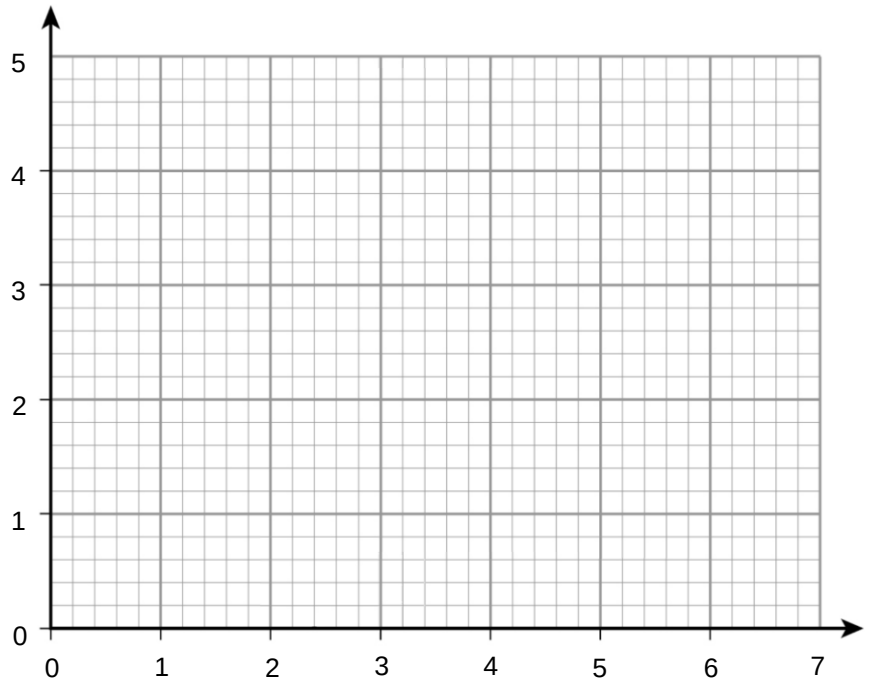


Answer _____

5

4 Graphicaly, or otherwise, solve $x^2 - 6x + 9 > 0$. *(Level 8)*

[4 marks]



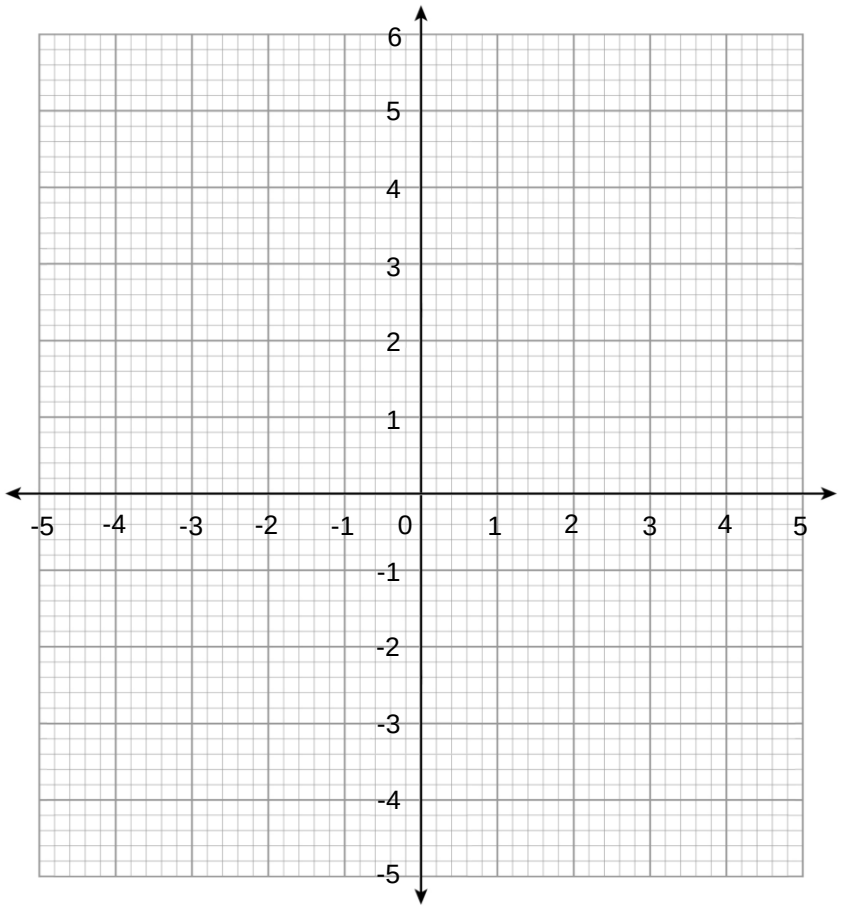
Answer _____

Turn over for next question

4

5 Graphicaly, or otherwise, solve $2k^2 + 3k - 2 > 0$. *(Level 8)*

[5 marks]



Answer _____

Turn over for next question

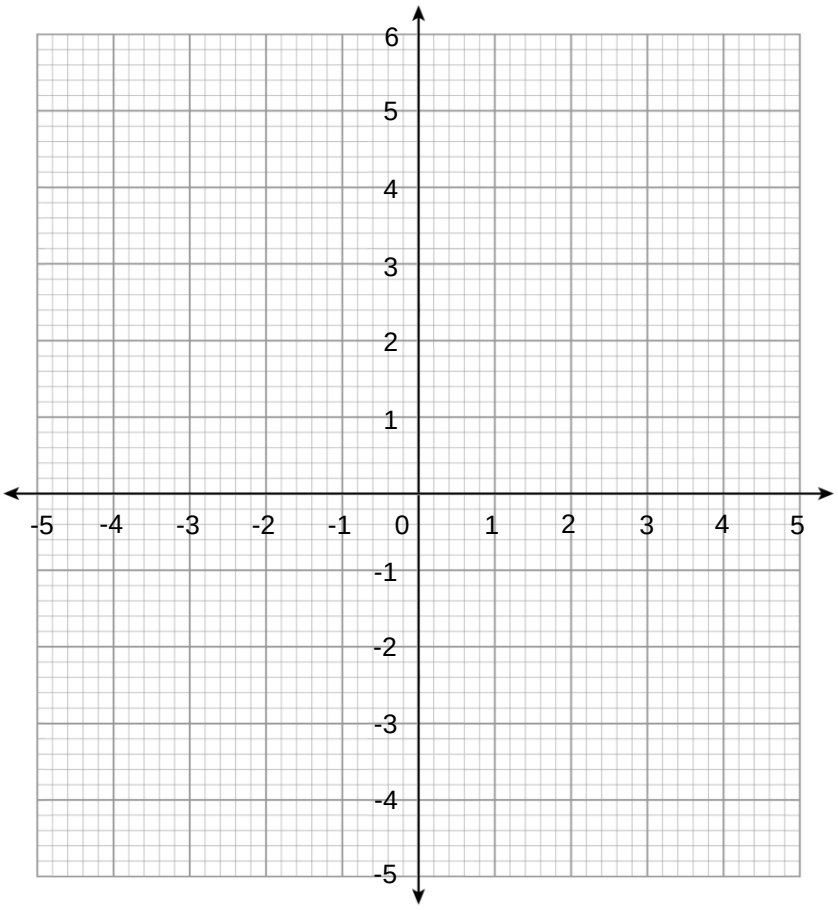
5

6 Graphicaly, or otherwise, find the value(s) of x that satisfies the two inequalities: *(Level 8)*

$$x^2 + 4x > 0 \; ; and$$

$$(x + 1)(3x - 2) > 0.$$

[6 marks]



Answer _____

End of Questions

6

END