TheMathsProfessor.com

Surname	Other names

Edexcel/AQA
Level 1/Level 2 GCSE (9 - 1)

Centre Number | | | | | |

Candidate Number | | | | |

Quadratic inequalities

Non-Calculator

Higher Tier

Assessment Materials – Issue	Paper Reference
Time: n/a	**1MA1/1H**

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
- *– there may be more space than you need.*
- **Calculators may not be used.**

- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out**.

Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets
  – use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

S48572A

Turn over ▶

S48572A0120

PEARSON

6/4/7/7/4/6/6/

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

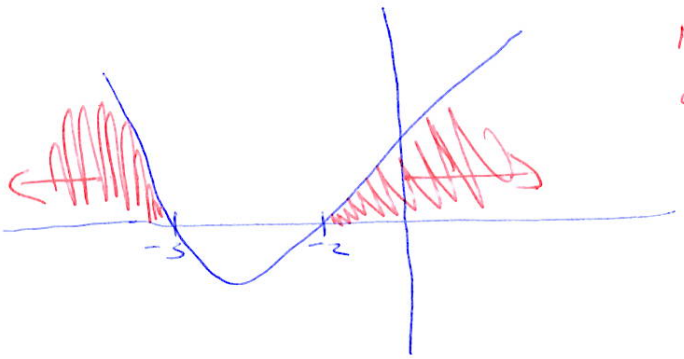
1. Find the values which satisfy the inequality:

$$x^2 + 5x + 6 > 0$$

treat as = for now

$(x+3)(x+2) > 0$

$x = -3 \quad x = -2$



I've shaded this region as >0 means above y axis.

$x > -2$

$x < -3$

.....

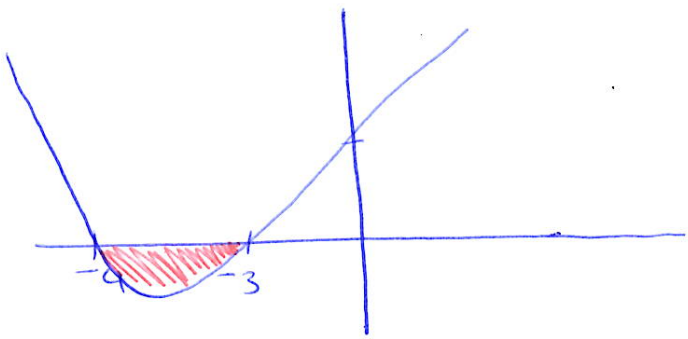
(Total for Question is 4 marks)

2. Find the values which satisfy the inequality:

$$x^2 + 7x + 12 < 0$$

$(x+3)(x+4) < 0$

$x = -3 \quad x = -4$



$-4 < x < -3$

.....

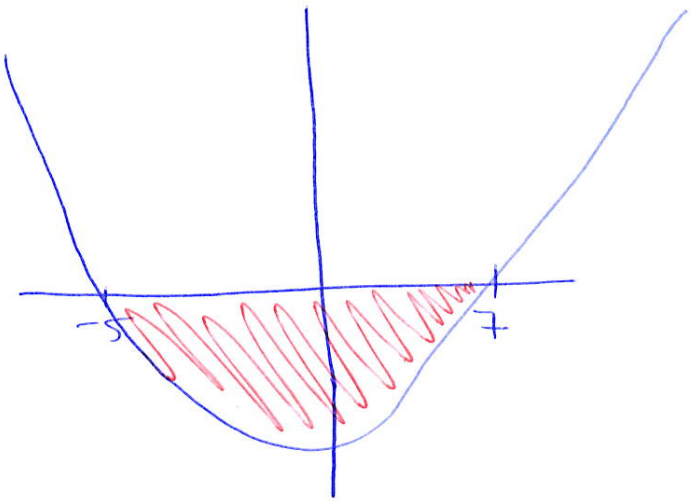
(Total for Question is 4 marks)

3. Find the values which satisfy the inequality:

$$y^2 - 2y - 35 < 0$$

$(y-7)(y+5) < 0$

$y = 7 \quad y = -5$



$-5 < y < 7$

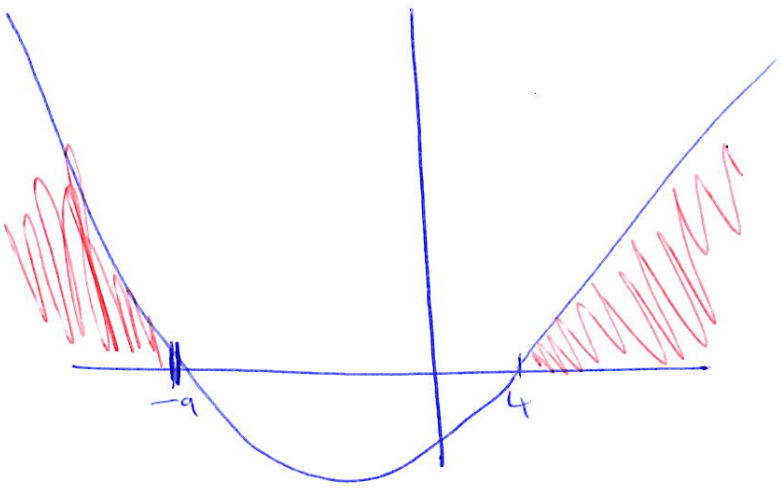
(Total for Question is 4 marks)

4. Find the values which satisfy the inequality:

$$m^2 + 5m - 36 > 0$$

$(m+9)(m-4) > 0$

$m = -9 \quad m = 4$



$m > 4$

$m < -9$

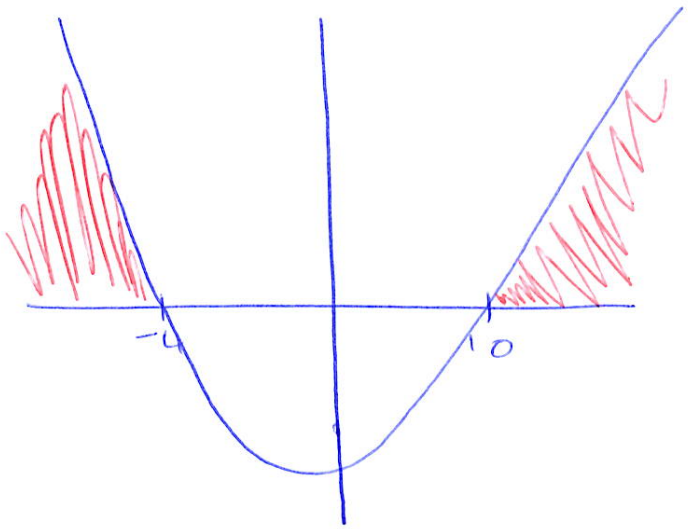
(Total for Question is 4 marks)

5. Find the values which satisfy the inequality:

$$x^2 - 6x - 40 \geq 0$$

$(x+4)(x-10) \geq 0$

$x = -4 \quad x = 10$



$x \geq 10$

$x \leq -4$

(Total for Question is 4 marks)

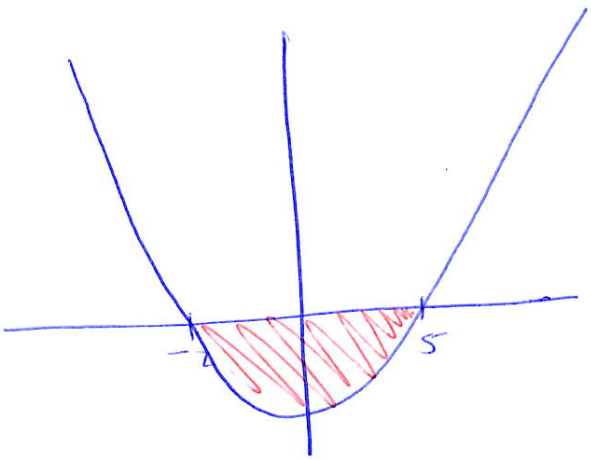
6. Find the values which satisfy the inequality:

$$k^2 - 3k - 10 \leq 0$$

$(k-5)(k+2) \leq 0$

$k = 5$

$k = -2$



$-2 \leq k \leq 5$

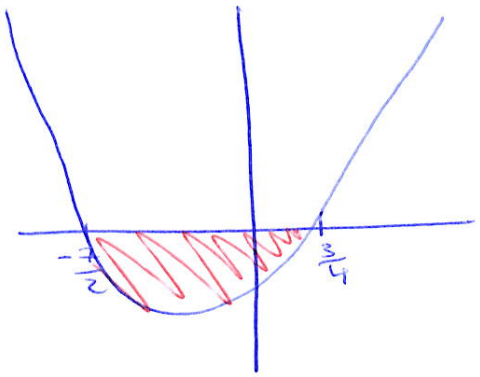
(Total for Question is 4 marks)

7. Find the values which satisfy the inequality:

$$6x^2 + 13x - 28 \leq 0$$

$(3x - 4)(2x + 7) \leq 0$

$x = \frac{3}{4}$ $x = -\frac{7}{2}$ or -3.5



$-\frac{7}{2} \leq x \leq \frac{3}{4}$

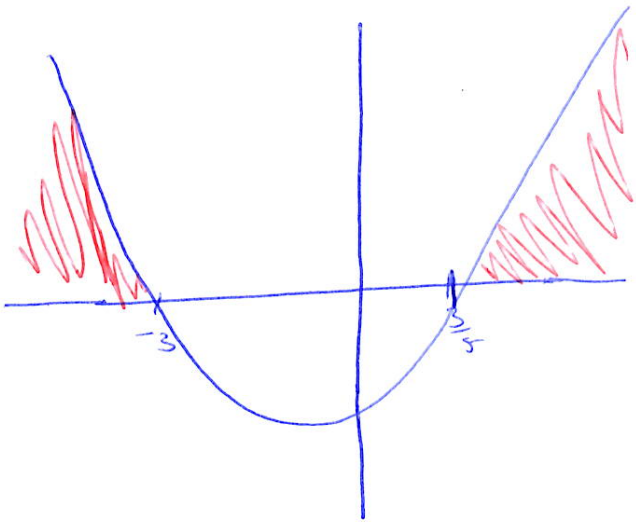
(Total for Question is 4 marks)

8. Find the values which satisfy the inequality:

$$5k^2 + 12k - 9 \geq 0$$

$(5x - 3)(x + 3)$

$x = \frac{3}{5}$ $x = -3$



$x < -3$

$x > \frac{3}{5}$

(Total for Question is 4 marks)