

PAST EXAMINATION QUESTIONS : QUADRATIC INEQUALITIES

1. Find the range of values of x for which $2x(x-1) < 3-x$. (J89/P1/8b)
 2. A piece of wire, 40 cm long, is bent to form the shape shown in the diagram. Express y in terms of x , and hence show that the area enclosed, $A \text{ cm}^2$, is given approximately by $A = 20x - 1.07x^2$. Hence determine the value of x for which A is a maximum. (J89/P1/11b)
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3. Find the values of x for which $x < x^2 - 6$. (N89/P1/7b)
 4. Find the range of values of x for which $x(8-x) \leq 15$. (J90/P1/6i)
 5. Find the range of values of x for which $8x+3 < 3x^2$. (J91/P1/6a)
 6. State the minimum value of $(x+1)^2 - 2$ and the corresponding value of x . Sketch the curve $y = (x+1)^2 - 2$ for the domain $-4 \leq x \leq 2$. (J91/P1/16b)
 7. Find the range of values of x for which $2x^2 + 2 > 5x$. (N91/P1/4a)
 8. Find the range of values of x for which $x^2 > \frac{9x+5}{2}$. (N92/P1/6b)
 9. Find the range of values of x for which $x^2 < 2x+3$. (J93/P1/6)
 10. Find the range of values of x for which $x^2 \leq 5x+6$. (N93/P1/10b)
 11. Find the range of values of x for which $2x^2 \geq 3x+2$. (J94/P1/4b)

1. $-1 < x < 1\frac{1}{2}$
2. $y = \frac{40-3x}{2}, 9-35$
3. $x < -2$ or $3 < x$
4. $x \leq 3$ or $5 \leq x$
5. $x < -\frac{1}{3}$ or $3 < x$
6. $-2, -1$
7. $x < \frac{1}{2}$ or $2 < x$
8. $x < -\frac{1}{2}$ or $5 < x$
9. $-1 < x < 3$
10. $-1 \leq x \leq 6$
11. $x \leq -\frac{1}{2}$ or $2 \leq x$