

Inequalities - Past Edexcel Exam Questions

1. (Question 7 - C1 May 2018)

(a) (*Discriminants Question*)

(b) Given that $2k^2 + 13k + 20 < 0$, find the set of possible values of k . [4]

2. (Question 9 - C1 May 2017)

(a) (*Curve Sketching Question*)

(b) (*Discriminants Question*)

(c) Given that $(5 - c)^2 > 12$, find the range of possible values for c . [4]

3. (Question 8 - C1 May 2016)

(a) (*Discriminants Question*)

(b) Given that $4p^2 - 20p + 9 < 0$, find the set of possible values of p . [4]

4. (Question 5 - C1 May 2015)

(a) (*Discriminants Question*)

(b) Given that $p^2 - 6p + 1 > 0$, find the set of possible values of p . [4]

5. (Question 3 - C1 May 2014)

Find the set of values of x for which

(a) $3x - 7 > 3 - x$ [2]

(b) $x^2 - 9x \leq 36$ [4]

(c) **both** $3x - 7 > 3 - x$ **and** $x^2 - 9x \leq 36$. [1]

6. (Question 5 - C1 May 2013)

Find the set of values of x for which

(a) $2(3x + 4) > 1 - x$, [2]

(b) $3x^2 + 8x - 3 < 0$. [4]

7. (Question 3 - C1 Jan 2012)

Find the set of values of x for which

(a) $4x - 5 > 15 - x$, [2]

(b) $x(x - 4) > 12$. [4]

8. (Question 3 - C1 May 2010)

Find the set of values of x for which

(a) $3(x - 2) < 8 - 2x$, [2]

(b) $(2x - 7)(1 + x) < 0$, [3]

(c) **both** $3(x - 2) < 8 - 2x$ **and** $(2x - 7)(1 + x) < 0$. [1]

9. (Question 4 - C1 Jun 2009)

Find the set of values of x for which

(a) $4x - 3 > 7 - x$, [2]

(b) $2x^2 - 5x - 12 < 0$, [4]

(c) **both** $4x - 3 > 7 - x$ **and** $2x^2 - 5x - 12 < 0$. [1]

10. (Question 2 - C1 May 2006)

Find the set of values of x for which

$$x^2 - 7x - 18 > 0$$

[4]

11.

(Question 6 - C1 May 2005)

Find the set of values of x for which

(a) $3(2x + 1) > 5 - 2x$, [2]

(b) $2x^2 - 7x + 3 > 0$, [4]

(c) **both** $3(2x + 1) > 5 - 2x$ **and** $2x^2 - 7x + 3 > 0$. [2]

Solutions

1. (a) (*Discriminants Question*)
(b) $-4 < k < -\frac{5}{2}$
2. (a) (*Curve Sketching Question*)
(b) (*Discriminants Question*)
(c) $c < 5 - 2\sqrt{3}$ or $c > 5 + 2\sqrt{3}$
3. (a) (*Discriminants Question*)
(b) $\frac{1}{2} < p < \frac{9}{2}$
4. (a) (*Discriminants Question*)
(b) $p < 3 - 2\sqrt{2}$ or $p > 3 + 2\sqrt{2}$
5. (a) $x > \frac{5}{2}$
(b) $-3 \leq x \leq 12$
(c) $\frac{5}{2} < x \leq 12$
6. (a) $x > -1$
(b) $-3 < x < \frac{1}{3}$
7. (a) $x > 4$
(b) $x > 6, x < -2$
8. (a) $x < \frac{14}{5}$
(b) $-1 < x < \frac{7}{2}$
(c) $-1 < x < \frac{14}{5}$
9. (a) $x > 2$
(b) $-\frac{3}{2} < x < 4$
(c) $2 < x < 4$
10. $x < -2, x > 9$
11. (a) $x > \frac{1}{4}$
(b) $x < \frac{1}{2}, x > 3$
(c) $\frac{1}{4} < x < \frac{1}{2}, x > 3$